TEACHING LITERACY IN TENNESSEE: UNIT STARTER
GRADE 3

Important Note: *The unit starter provides the foundation for unit planning. In addition to thoughtful preparation from these resources, there are additional components of the literacy block for which educators will need to plan and prepare. See page 5 for more guidance on planning for other components of the literacy block.*

This unit starter is being released in draft form to be pilot tested in classrooms across Tennessee. The Tennessee Department of Education is committed to improving this resource to meet the needs of Tennessee educators and students and welcomes feedback on the design and usability of the unit starter. Please share your feedback through our online feedback form here. The department will use this feedback to improve this resource and inform the development of future resources.

TN Department of Education

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Note: A student packet with all daily tasks included can be accessed in a separate document entitled: "Grade 3 Student Packet."

GUIDANCE FOR EDUCATORS

1. WHY IS THE DEPARTMENT PROVIDING UNIT STARTERS?

The research is clear: reading proficiently—especially reading proficiently early—prepares students for life-long success. To support greater reading proficiency among all students in Tennessee, Governor Haslam, the First Lady, and Commissioner McQueen kicked off the Read to be Ready campaign in February 2016 with a goal of having 75 percent of Tennessee third graders reading on grade level by 2025. Together, we are making progress. High-quality texts that meet grade-level expectations are increasingly making their way into classrooms. Students are spending more time reading, listening, and responding to texts that have the potential to build both skill-based and knowledge-based competencies. However, the first year of the initiative has revealed a need for strong resources to support the growing teacher expertise in Tennessee.

Earlier this year, the Tennessee Department of Education released Teaching Literacy in Tennessee. This document outlines the types of opportunities students need to become proficient readers, writers, and thinkers, and includes a literacy unit design framework describing the ways that teachers can create these opportunities. This includes building rich learning opportunities around meaningful concepts within the English language arts block where students listen to, read, speak, and write about sets of texts that are worthy of students' time and attention. The department is committed to providing continued support to teachers and leaders in implementing this vision for literacy, which is why we are excited to release our second set of Teaching Literacy in Tennessee: Unit Starters for grades K-3.

The resources found in each of the Teaching Literacy in Tennessee: Unit Starters are intended to support planning for one full unit aligned to the vision for Teaching Literacy in Tennessee. They are intended to serve as a model to reference as educators continue to design units and compare the alignment of lessons to the vision for Teaching Literacy in Tennessee.

2. WHAT RESOURCES ARE INCLUDED IN A UNIT STARTER?

The unit starters include several of the key components in the framework for Teaching Literacy in Tennessee. These components serve as the foundation for strong unit planning and preparation.

Content Goals: Each unit starter begins with content goals that articulate the desired results for learners. [Adapted from McTighe, J. & Seif, E. (2011) and Wiggins, G. & McTighe, J. (2013)]

Universal Concept: A concept that bridges all disciplinary and grade-level boundaries. This concept provides educators and students with an organizational framework for connecting knowledge across disciplines into a coherent view of the world.

Universal Concept Example: Interdependence

Unit Concept: The application of the universal concept to one or more disciplines. This concept provides students with an organizational framework for connecting knowledge within the disciplines into a coherent view of the world and provides educators with a focus for unit planning.

Unit Concept Example: Interdependence of living things

Enduring Understandings and Essential Questions: The ideas we want students to understand, not just recall, from deep exploration of our unit concept and the corresponding open-ended questions that will guide students' exploration of these ideas. The enduring understandings reflect the abstract, easily misunderstood, "big" ideas of the discipline. They answer questions like "Why?" "So, what?" and "How does this apply beyond the classroom?" to support deep levels of thinking. These questions spark genuine and relevant inquiry and provoke deep thought and lively discussion that will lead students to new understandings.

Enduring Understanding Example: People, plants, and animals depend on each other to survive.
Essential Question Example: Why do humans need to preserve trees?

Disciplinary Understandings and Guiding Questions: Disciplinary understandings are the specific ideas and specialized vocabulary of the discipline. These ideas will focus instruction, build disciplinary knowledge, and provide the schema to organize and anchor new words. Student understanding of these content-related ideas is critical to investigation and understanding of the more abstract and transferable ideas outlined in the enduring understandings. Guiding questions are open ended and guide students' exploration of the disciplinary understanding. These questions prompt ways of thinking and support knowledge building within the content areas.

Disciplinary Understanding Example: The structure of plants and the function of each part
Guiding Question Example: Why are roots important to plants?

The concepts for this set of unit starters were derived from the vertical progression of the Life Sciences Disciplinary Core Ideas within the Tennessee Academic Standards for Science and focus on plant and animal life. These standards are represented below. **Though strong connections are made to the science standards within the unit, it is critical to note that this unit starter does not encompass the totality of the identified science standards. The unit is not intended to replace instruction and hands-on application of the science** crosscutting concepts, science and engineering practices, and disciplinary core ideas.

Kindergarten (K.LS1)

- K.LS1.1 Use information from observations to identify differences between plants and animals (locomotion, obtainment of food, and take in air/gasses).
- K.LS1.2 Recognize differences between living organisms and non-living materials and sort them into groups by observable physical attributes.

Grade 1 (1.LS1)

- 1.LS1.1 Recognize the structure of plants (roots, stems, leaves, flowers, fruits) and describe the function of the parts (taking in water and air, producing food, making new plants).
- 1.LS1.2 Illustrate and summarize the life cycle of plants.

Grade 2 (2.LS1)

- 2.LS1.1 Use evidence and observations to explain that many animals use their body parts and senses in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water, and air.
- 2.LS1.3 Use simple graphical representations to show that species have unique and diverse life cycles.

Grade 3 (3.LS1)

- 3.LS1.1 Analyze the internal and external structures that aquatic and land animals and plants have to support survival, growth, behavior, and reproduction.

Texts for Interactive Read Aloud & Shared Reading: Each unit starter includes a collection of complex texts to support strong interactive read aloud and shared reading experiences. These texts have been selected to provide regular opportunities for students to engage with rich academic language and build the disciplinary and enduring understandings for the unit. Given the complexity of these texts, teachers should revisit them with students after the initial read(s) to deepen knowledge. Multiple question sequences and tasks are included in the unit starter for most texts; however, teachers are encouraged to add additional readings, questions, and tasks as needed to meet the needs of their students. Teachers may also analyze and select additional suitable texts to extend and/or support the development of the unit concepts. *See page 38 in* Teaching Literacy in Tennessee *for the three-part model for determining text complexity:*

quantitative dimensions of text complexity; qualitative dimensions of text complexity; and reader and task considerations.
Suggested Resources for Small Group & Independent Reading: The unit starters include a list of suggested resources (texts, videos, online resources) to support a volume of reading on the unit concepts. These materials may be used during small group instruction and/or independent reading and writing activities to support knowledge building for students and to meet students' diverse learning needs. In addition, teachers are encouraged to select additional resources to extend and/or support the development of the unit concepts.

End-of-Unit Task: Each unit starter includes an end-of-unit task that provides an opportunity for students to demonstrate their understanding of the unit concept and to answer the essential questions for the unit in an authentic and meaningful context.

Daily Tasks & Question Sequences: Each unit starter includes a daily task and question sequence for approximately two weeks of instruction. The question sequences integrate the literacy standards to support students in accessing the complex texts during interactive read aloud and shared reading by drawing students' attention to complex features in the text and guiding students toward the disciplinary and/or enduring understandings of the unit.

The daily tasks provide an opportunity for students to demonstrate their new understandings by applying what they have learned from the texts they read daily across the literacy block. The texts and tasks have been carefully sequenced to support students in building disciplinary understandings over the course of the unit, so students are able to successfully engage in the end-of-unit task.

Sidebar Notes: As you navigate this document, you will also see that sidebar notes have been included throughout. These notes are intended to: 1) highlight additional rationale that may be of interest to educators; and 2) point out specific changes that have been made to the second iteration of unit starters based on feedback from the first set.

3. WHAT RESOURCES ARE NOT INCLUDED IN A UNIT STARTER?

These resources provide the foundation for unit planning but are not intended to be a comprehensive curriculum resource. Instead, educators must thoughtfully prepare from the resources that are included in the unit starter by adding additional resources as appropriate to meet instructional goals and student needs.

In addition, teachers will need to plan for other components of the English language arts block. The unit starters **do not include** the following:

- Instructional guidance for small group and independent reading and writing
    - Students should be grouped flexibly and resources selected to meet specific and unique needs of students, which may change over time.
- Instructional guidance and resources for explicit foundational skills instruction and foundational skills practice in and out of context
    - Reading foundational skills instruction should follow a year-long scope and sequence and be responsive to the unique needs of your students.

Please refer to Teaching Literacy in Tennessee for definitions of new or unfamiliar terms used in this document.

4. HOW SHOULD I USE THE RESOURCES IN THE UNIT STARTER TO PLAN MY UNIT?

Interactive Read Aloud and Shared Reading Experiences
To prepare for the unit, start by thoroughly reviewing the resources that are included in the unit starter. These resources are designed to support students in thinking deeply about the unit concepts and the enduring understandings embedded in complex text through interactive read aloud and shared reading experiences. To support this step, a unit preparation protocol and a lesson preparation protocol are included in Appendices A and B.

Small Group Reading and Writing

In addition to interactive read aloud and shared reading experiences, plan small group instruction to support the diverse needs of students in your classroom. Group students flexibly and select texts that address students' strengths (e.g., prior knowledge) and meet their specific needs:

Accuracy/word analysis: Some students may need additional practice with foundational reading skills that have already been taught and now are applied to reading authentic texts.

Fluency: Some students may be strong decoders but still struggle to read fluently, which holds them back from successful comprehension.

Comprehension: Some students may require support for their use of comprehension skills and strategies for building knowledge and acquiring academic vocabulary.

The unit starters include a list of suggested resources (texts, videos, online resources) that can be used to support small group instruction.

Modeled, Shared and Interactive Writing

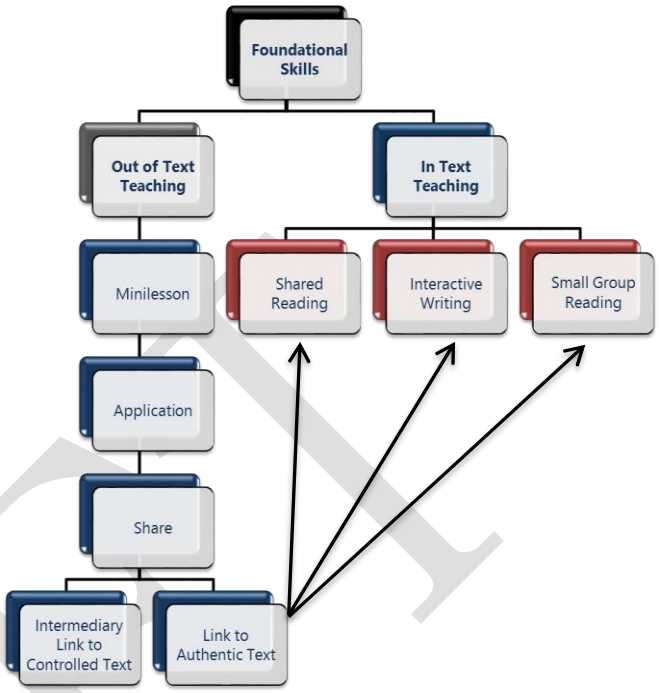
To prepare students for success on the daily and end-of-unit tasks in the unit starter, plan for modeled, shared and interactive writing opportunities. Modeled writing is an instructional strategy where the teacher explicitly demonstrates the writing process for different forms and purposes. Shared writing is an instructional strategy where the teacher and students compose a text together with the teacher acting as the scribe. Interactive writing is an extension of shared writing in which the teacher and students compose a text together with the teacher strategically sharing the pen during the process.

Independent Reading and Writing

The Tennessee English Language Arts Standards call for students to read a range of literary and informational texts and to engage in a high volume of reading independently. The standards also call for students to have aligned writing experiences that develop their skills as writers and support their comprehension of rich, complex texts. Plan for how you will use the suggested resources to engage students in a variety of reading and writing experiences. Consider setting up systems for accountability during independent work time such as one-on-one conferences, center assignments, and/or accountable independent reading structures.

See pages 41-43 in Teaching Literacy in Tennessee for a description of these instructional strategies and their purpose within the literacy block.

Explicit Foundational Skills Instruction
It is recommended that educators consult the Foundational Literacy Standards and use a systematic phonics sequence (often found within a phonics program) for foundational skills instruction in conjunction with the resources in the unit starter. Strong foundational skills instruction follows an intentional, research-based progression of foundational skills that incorporates phonological awareness, phonics, and word recognition.



Foundational Skills Practice Out of Text and In Text
Strong foundational skills instruction includes opportunities for students to practice their newly acquired skills out of text and in text.

Out of text instruction may take the form of mini-lessons and hands-on application through activities, such as word sorts or the use of manipulatives.

In text instruction provides opportunities across the literacy block for students to further apply their new learning in authentic reading and writing texts. Foundational skills assessments should be ongoing and should be used to determine when students have mastered the skill and are ready to move on to the next skill.

See pages 78-79 in Teaching Foundational Skills Through Reading and Writing Coach Training Manual *for more information about the relationship between out of text and in text teaching.*

Structures for Academic Talk & Collaboration
The unit starters include suggestions for questions and daily tasks, but they do not include guidance on how to structure sharing/discussion time. Consider planning how your students will engage with you and each other when responding to complex text orally or in writing by incorporating things like expectations for talk time, sentence starters, hand signals, etc.

5. WHAT MATERIALS DO I NEED TO ORDER AND PRINT?

Texts for Interactive Read Aloud & Shared Reading
Each of the texts included in the unit starters can be purchased or accessed online or through a local library. A list of these texts is included in the unit starter materials. Educators will need to secure, purchase, or print one copy of each text selected to support interactive read aloud experiences. Each student will need a copy of the selected text for the shared reading experiences, unless the text is projected or displayed large enough for all students to read.

Suggested Texts for Small Group & Independent Reading
Additionally, each of the texts suggested for small group and independent reading can be purchased or accessed online or through a local library.

Materials to Be Printed
The unit starters can be accessed digitally here.

Educators may also consider printing:

- **Question Sequence –** Teachers may want to print question sequences or write the questions on sticky notes to have them available during interactive read aloud and shared reading experiences.

- **Daily Task –** Teachers may want to print the teacher directions for the daily task.
- **End-of-Unit Task –** Teachers may want to print the teacher directions for the end-of-unit task.

6. WHERE CAN I SHARE MY FEEDBACK ON THE UNIT STARTER?

The Tennessee Department of Education welcomes any feedback you have on the design and usability of the Teaching Literacy in Tennessee: Unit Starters. Please share your feedback through our online feedback form here.

UNIT OVERVIEW

The diagram on the next page provides a high-level overview of the unit.

Guidance for the central text and suggested strategy for each day of instruction has been provided in the unit starter. It is important to note that this guidance does not reflect a comprehensive literacy block. Educators should support students in developing their expertise as readers and writers by flexibly utilizing a variety of instructional strategies throughout the literacy block.

Educators are also encouraged to use the guidance from this unit starter flexibly based on the needs, interests, and prior knowledge of students. For example, teachers may decide to re-read a text, pull in supplementary texts, or provide additional scaffolding based on their knowledge of their students. Teachers are encouraged to be strategic about how many instructional days to spend on this unit.

This unit starter is organized around three questions: (1) What are the desired results for learners? (2) How will students demonstrate these desired results? (3) What learning experiences will students need to achieve the desired results?

UNIT OVERVIEW

WHAT ARE THE DESIRED RESULTS FOR LEARNERS?

By the end of this unit, students will have developed an understanding of the following concepts and will be able to answer the following questions.

Universal Concept: Mutually Supportive Relationships

Unit Concepts: Animals' biological structures and their functions work together to support life.

Enduring Understandings: Animals have internal and external structures that work together to help them survive.

Animals have internal and external structures that affect and support their behaviors.

Essential Questions: Why are the external and internal structures of animals important to their survival? How do the internal and external structures affect the way animals behave?

Disciplinary Understandings: Animals have external structures, including legs, wings, feathers, trunks, claws, fins, horns, and antennae, which impact their ability to survive.

Animals have internal structures, including a heart, a stomach, lungs, a brain, and skin, which support survival.

Animals have internal and external structures – including noses, muscles, and eyes – that cause them to behave in certain ways.

Guiding Questions: What kinds of external structures affect animals' ability to survive? What kinds of internal structures affect animals' ability to survive? What different internal and external structures cause animals to behave in different ways?

HOW WILL STUDENTS DEMONSTRATE THESE DESIRED RESULTS?

Students will synthesize their learning from the unit texts and demonstrate understanding in the following authentic and meaningful context.

End-of-Unit Task:

Part I: You are a journalist for the magazine *Our Planet*, and your assignment is to fly to two different regions to study the differences in animal adaptations in each region so the public can better understand how animals interact with their environments and how they avoid extinction. Your article will be featured in the *Our Planet Kids* Magazine. Since you are one of the senior journalists, you are able to select the two regions you will travel to.

Part II: As a senior journalist, an important part of your work is designing the layout of your article which will be featured in the "Check Out Our Plant" section of the magazine. Determine how to best present your article to the readers of *Our Planet* magazine. As you design the layout of your article, consider the text features and visuals that would be helpful to your readers.

Part III: Your article will also be featured on a special edition of the *Our Planet* TV broadcast. Prepare to deliver a 1-2-minute segment that will be televised for viewers of all ages. During your segment, highlight the key findings you made while traveling to your two regions. Your purpose is to help the public understand how animals interact and survive in specific environments. As you practice your broadcast, consider what makes TV reporters successful.

WHAT LEARNING EXPERIENCES WILL STUDENTS NEED TO ACHIEVE THE DESIRED RESULTS?

Students will achieve the desired results as a result of deep exploration of complex texts through interactive read-aloud (IRA) and shared reading (SR) experiences with the following texts.

Animal Senses (IRA)

Animals That Make Me Say Wow! (SR)

Bullfrog at Magnolia Circle (SR)

How to be an Elephant (IRA)

What If You Had an Animal Nose? (SR)

What If You Had Animal Eyes? (SR)

Eye to Eye (IRA)

Neighborhood Sharks (IRA)

UNIT CONTENT GOALS

This unit starter was created with several levels of conceptual understanding in mind. Each conceptual level serves an instructional purpose, ranging from a universal concept that bridges disciplinary boundaries to concrete disciplinary understandings that focus instruction around specific schema. The diagram below shows the conceptual levels and questions that were considered during the development of all of the unit starters. The diagram on the following page outlines the specific concepts and questions for this Third Grade unit starter.

Universal Concept: A concept that bridges all disciplinary and grade-level boundaries (i.e., super-superordinate concept). This concept provides students with an organizational framework for connecting knowledge across disciplines into a coherent view of the world. (Example: Interdependence)

Unit Concept: The application of the crosscutting concept to one or more disciplines (i.e., superordinate concept). This concept provides students with an organizational framework for connecting knowledge within the disciplines into a coherent view of the world and provides educators with a focus for unit planning. (Example: Interdependence of living things)

Enduring Understandings: The ideas we want students to understand, not just recall, from deep exploration of our unit concept. The enduring understandings reflect the abstract, easily misunderstood, "big" ideas of the discipline. They answer questions like "Why?" "So what?" and "How does this apply beyond the classroom?" to support deep levels of thinking. (Example: People, plants, and animals depend on each other to survive.)

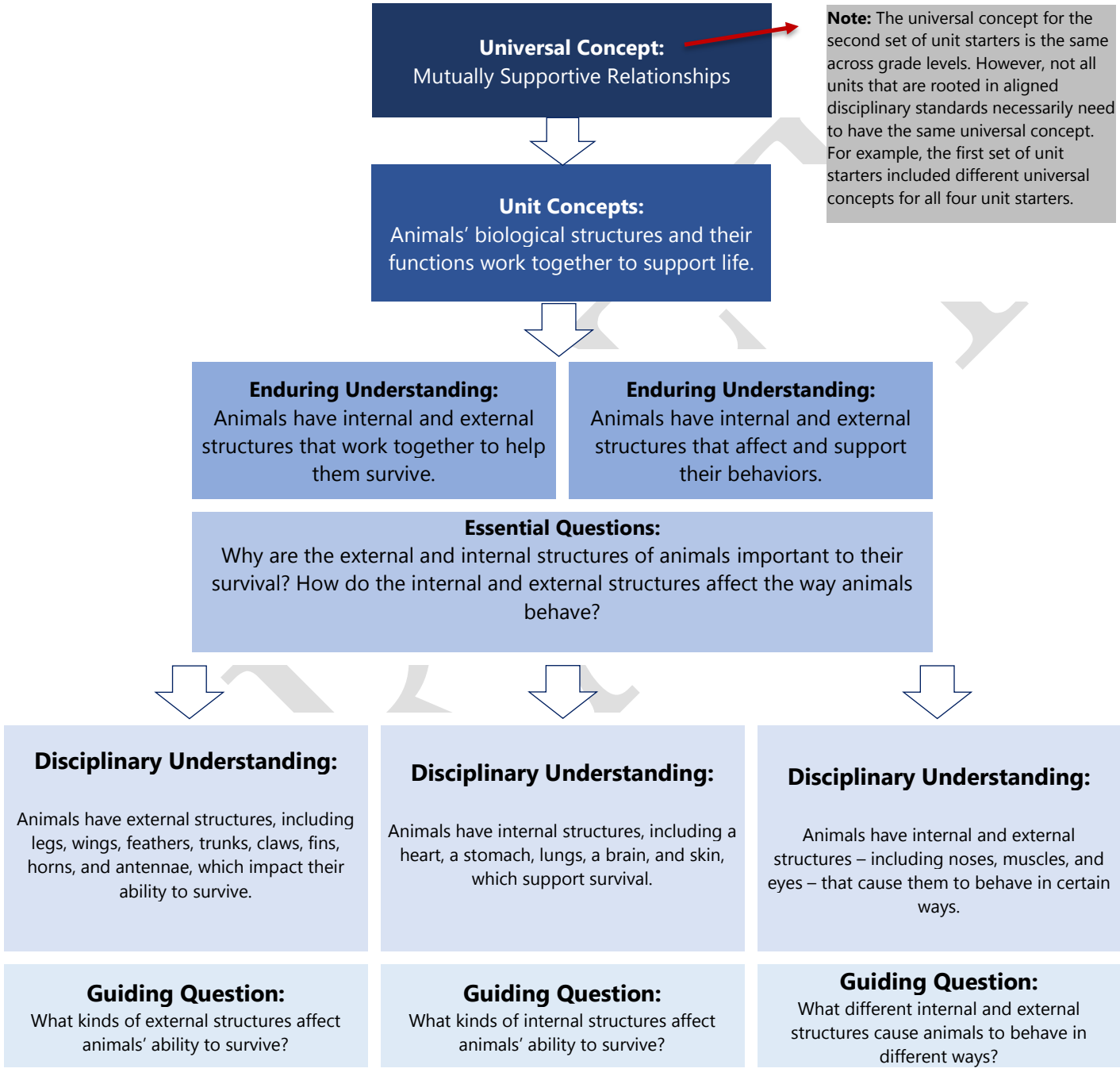
Essential Questions: Open-ended questions that guide students' exploration of the enduring understandings or "big" ideas of the discipline. These questions spark genuine and relevant inquiry and provoke deep thought and lively discussion that will lead students to new understandings. (Example: Why do humans need to preserve trees?)

Disciplinary Understandings: The specific ideas and specialized vocabulary of the discipline. These ideas will focus instruction, build disciplinary knowledge, and provide the schema to organize and anchor new words. Student understanding of these key ideas is critical to investigation and understanding of the more abstract and transferable ideas outlined in the enduring understandings. (Example: The structure of plants and the function of each part.)

Guiding Questions: Open-ended questions that guide students' exploration of the disciplinary understandings in the unit and refer specifically to the domain (e.g., ecosystems). These questions prompt ways of thinking and perceiving that are the province of the expert. (Example: Why are roots important to plants?)

UNIT CONTENT GOALS

The diagram below shows the conceptual levels and questions that were considered during the development of this unit starter. The diagram below outlines the specific concepts and questions for the kindergarten unit starter.



3.LS1.1 Analyze the internal and external structures that aquatic and land animals and plants have to support survival, growth, behavior, and reproduction.

UNIT STANDARDS

The questions and tasks outlined in this unit starter are aligned with the following Tennessee English Language Arts and Science Standards. As you will see later in the unit starter, the question sequences and tasks for each text integrate multiple literacy standards to support students in accessing the rich content contained in the texts.

ALIGNED STANDARDS: INFORMATIONAL TEXT

3.RI.KID.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as a basis for the answers.

3.RI.KID.2 Determine the main idea of a text; recount the key details and explain how they support the main idea.

3.RI.KID.3 Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.

3.RI.CS.4 Determine the meaning of words and phrases in a text relevant to a grade 3 topic or subject area.

3.RI.CS.5 Use text features to locate information relevant to a given topic efficiently.

3.RI.CS.6 Distinguish reader point of view from that of an author of a text.

3.RI.IKI.7 Use information gained from illustrations and the words in a text to demonstrate understanding of a text.

3.RI.IKI.8 Explain how reasons support specific points an author makes in a text.

3.RI.IKI.9 Compare and contrast the most important points and key details presented in two texts on the same topic.

3.RI.RRTC.10 Read and comprehend stories and informational texts at the high end of the grades 2-3 text complexity band independently and proficiently.

ALIGNED STANDARDS: LITERATURE

3.RL.KID.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as a basis for the answers

3.RL.CS.4 Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language (e.g., feeling blue versus the color blue).

3.RL.CS.5 Refer to parts of stories, dramas, and poems, using terms such as chapter, scene, and stanza; describe how each successive part of a text builds on earlier sections

3.RL.IKI.7 Explain how illustrations in a text contribute to what is conveyed by the words.

ALIGNED STANDARDS: WRITINIG

3.W.TTP.2 Write informative/explanatory texts to examine a topic and convey ideas and information.

3.W.PDW.4 With guidance and support, produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade specific expectations for writing types are defined in standards 1-3 above.)

3.W.PDW.5 With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 3.)

3.W.RBPK.7 Conduct short research projects that build general knowledge about a topic.

3.W.RBPK.9 Include evidence from literary or informational texts, applying grade 3 standards for reading.

ALIGNED STANDARDS: SPEAKING & LISTENING

3.SL.CC.1 Prepare for collaborative discussions on 3rd grade level topics and texts; engage effectively with varied partners, building on others' ideas and expressing their own ideas clearly.

3.SL.CC.3 Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

3.SL.PKI.4 Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.

3.SL.PKI.5 Add audio or visual elements when appropriate to emphasize or enhance certain facts or details.

3.SL.PKI.6 Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

ALIGNED STANDARDS: SCIENCE

3.LS1.1 Analyze the internal and external structures that aquatic and land animals and plants have to support survival, growth, behavior, and reproduction.

TEXTS FOR INTERACTIVE READ ALOUD & SHARED READING

These texts have been selected to provide regular opportunities for students to engage with rich academic language and to build the disciplinary and enduring understandings for the unit. They have been vetted for quality and complexity to support strong interactive read aloud and shared reading experiences.

The texts selected for interactive read aloud are intended to build students' comprehension of vocabulary, rich characters, engaging plots, and deep concepts and ideas across a variety of genres. These texts will typically be 1-3 grade levels above what students can read on their own.

The texts selected for shared reading are intended to provide opportunities for students to practice newly acquired foundational skills, to develop reading fluency, and to build knowledge across a variety of genres. Shared reading texts should be appropriately complex text that students can read with teacher guidance and support. Teachers will need to take the grade level and time of year into account when deciding if the shared reading texts are appropriate for their students. Teachers will also need to consider students' current abilities and the pace at which students need to grow to meet or exceed grade-level expectations by the end of the year. If the shared reading texts included in the unit starter are not appropriate for the specific group of students and time of year, educators are encouraged to make an informed decision about selecting a different text for shared reading. The shared reading texts in this unit starter are appropriate for instruction closer to the end of the academic school year. Later in the unit starter, you will see an example of different texts that may be more appropriate for different times of the year.

While preparing for instruction, educators are urged to carefully consider the needs and interests of the readers, including how to foster and sustain new interests, and to be strategic about the types of tasks that will support readers in deeply engaging with these rich texts. Teachers should also consider how they will make connections to students' prior knowledge and students' cultural and previous academic experiences. Teachers need to consider the vocabulary demands of the text and the level of support readers will need to deeply understand the text.

TITLE	AUTHOR
Animal Senses	Pamela Hickman
Animals That Make Me Say Wow!	Dawn Cusick
Bullfrog at Magnolia Circle	Deborah Dennard
How to Be an Elephant	Katherine Roy
What If You Had an Animal Nose?	Sandra Markle
Eye to Eye: How Animals See the World	Steve Jenkins
What If You Had Animal Eyes?	Sandra Markle
Neighborhood Sharks	Katherine Roy

SUGGESTED RESOURCES FOR SMALL GROUP & INDEPENDENT READING

These resources can be used to support a volume of reading on the unit concepts. These materials may be used during small group instruction and/or independent reading and writing activities to support knowledge building for students and to meet students' diverse learning needs.

TITLE (TEXTS, VIDEOS & ELECTRONIC RESOURCES)	AUTHOR
Wild Tracks! A Guide to Nature's Footprints	Jim Arnosky
Feathers Not Just for Flying	Melissa Stewart
Creature Feature	Steve Jenkins
Down, Down, Down	Steve Jenkins
What If You Had Animal Feet?	Sandra Markle
What If You Had Animal Hair?	Sandra Markle
What If You Had Animal Ears?	Sandra Markle
What If You Had Animal Teeth?	Sandra Markle
At the Sea Floor Cafe: Odd Ocean Critter Poems	Leslie Bulion
And to the Orca Winner Goes the Spoils- a Tasty Shark's Liver	Lauren Smith
The Rainforest Grew All Around	Susan K. Mitchell
Feathers Not Just for Flying	Melissa Stewart
10 Facts About Polar Bears!	National Geographic Kids https://www.natgeokids.com/uk/discover/animals/general-animals/polar-bear-facts/#!/register
Scorpion Facts!	National Geographic Kids

	https://www.natgeokids.com/uk/discover/animals/general-animals/scorpion-facts/#!/register
10 Giraffe Facts!	National Geographic Kids https://www.natgeokids.com/uk/discover/animals/general-animals/ten-giraffe-facts/#!/register
10 Facts About Bottlenose Dolphins	National Geographic Kids https://www.natgeokids.com/uk/discover/animals/sea-life/dolphins/#!/register
Living Things Change (video)	Crash Course Kids https://www.youtube.com/watch?v=xDSFlRunlrU&list=PLqXMSwaoorcjOfpomSz2RMPDWsbaNNLC9&index=1
Feathers Not Just for Flying	Melissa Stewart
What Do You Do With A Tail Like This?	Steve Jenkins

UNIT VOCABULARY

The following list contains vocabulary words from the interactive read aloud and shared reading texts that warrant instructional time and attention. Teachers should attend to these words **as they are encountered in the texts** to build students' vocabulary and to deepen their understanding of the unit concepts. Educators are encouraged to identify vocabulary that might be unfamiliar to students and to determine how they will teach those words (implicit, embedded, or explicit instruction) based on knowledge of their students. See Appendix C for an example routine for explicit vocabulary instruction.

Note: In addition to this comprehensive list, each question sequence lists the newly introduced vocabulary words that warrant instructional time and attention during the specific reading. These lists also provide guidance as to how the specific words could be taught.

Educators are also encouraged to dedicate a space in their classrooms to record unit vocabulary. This will provide a reference point for the students as they read, write, and talk about the unit topics. Through repeated attention to these words over the course of the unit, students will develop their understanding of these words and will begin to use them in speaking and writing activities.

Behavior and Survival	Internal Structures	External Structures
• adaptation • species • habitat • extinct • survival • threatened • defend/defense • predators/prey • mimicking • stable/stability • visual predators	• internal structures • vocal cords • smell sensors • decoded • interpreted • lenses • retina • warm-blooded • echolocation	• external structures • appendage • pupils • dorsal fin • exoskeleton

ADDITIONAL VOCABULARY TERMS TO EMPHASIZE DURING INSTRUCTION	
• generations • coordination • hibernation	• apex predator • migratory animals • vulnerable

ANIMAL SENSES – READING 1, QUESTION SEQUENCE 1, DAILY TASK 1

TEXT

Text: *Animal Senses* by Pamela Hickman

Question Sequence: First Read

Instructional Strategy: Interactive Read Aloud

**Teacher Note: The daily task for this day is meant to be completed following the shared reading of Animals That Make Me Say Wow!*

Note: The desired understanding for each reading articulates the disciplinary or enduring understandings students will grasp and/or build on as a result of engaging with the text. The question sequence for each reading will draw students' attention to complex features of the text that will support or challenge students. Over the course of the unit, the desired understandings for each reading build intentionally on one another to provide a coherent learning experience for students. This coherence is also supported through the intentional sequence of texts.

Note: Each instructional strategy has a different purpose. Interactive read aloud is a time for students to actively listen and respond to above grade level complex text. The texts selected for interactive read aloud are intended to build students' comprehension of vocabulary, rich characters, engaging plots, and deep concepts and ideas across a variety of genres. These texts will typically be 1-3 grade levels above what students can read on their own. Shared reading is an interactive experience in which students join in the reading of an appropriately complex text with teacher support. Texts used for shared reading are texts that students can read with teacher support. The purpose of shared reading is to provide opportunities for students to practice their newly acquired foundational skills, develop reading fluency, and build knowledge. These texts should be chosen by considering students' current abilities and the pace at which they need to grow to end the year meeting or exceeding grade-level expectations.

TEXT COMPLEXITY ANALYSIS

QUANTITATIVE COMPLEXITY MEASURES

950L

QUALITATIVE COMPLEXITY MEASURES

TEXT STRUCTURE	LANGUAGE FEATURES
The text structure is slightly complex. The structure is straightforward – the text is organized by different external characteristics of animals (eyes, noses, etc.) There are several text features that accompany illustrations. These graphics support the content, often providing opportunities for the reader to apply the written content, but are not essential for comprehension.	The language features in this text are moderately complex. The vocabulary is mostly familiar with a few academic or domain specific words ("monocular vision"). In these cases, there is context for the reader to draw on to determine the meaning of the word. There is a mixture of simple, compound, and complex sentences throughout. The language is largely explicit and easy to understand. There are a few occasions where the reader must apply knowledge or understanding to written or illustrated examples.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The meaning/purpose of this text is slightly complex. The purpose is explicitly provided in the beginning of the text ("In this book, you will learn about the five senses…"). It has a clear focus on animals' senses and the characteristics that support those senses.	The knowledge demands are moderately complex. The text contains some practical knowledge (and knowledge explored in social studies standards in grade 2) and begins to explore more specific content knowledge (some of the internal structures that support animals' senses and the different purposes they serve (they enable some social and predatory behaviors, support survival, etc.)

DESIRED UNDERSTANDING(S) FOR THIS READING

Animal senses require both internal and external structures. Animals' use of their senses promotes certain behaviors that lead to survival.

Note: The desired understanding for each reading articulates the disciplinary or enduring understandings students will grasp and/or build on as a result of engaging with the text. The question sequence for each reading will draw students' attention to complex features of the text that will support or challenge students. Over the course of the unit, the desired understandings for each reading build intentionally on one another to provide a coherent learning experience for students. This coherence is also supported through the intentional sequence of texts.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- senses (Explicit)
- structures (Explicit)
- binocular Vision (embedded)
- rumbling (embedded)
- echolocation (embedded)
- survival (explicit)
- predators (explicit)

Note: Note: The daily tasks build over the course of the unit to support students in developing the knowledge, vocabulary, and skills they will need in order to complete the end-of-unit task. Expectations for students' performance on the daily tasks are aligned with the disciplinary standards and the grade-level literacy standards for writing and speaking & listening.

DAILY TASK

Collaborative Task (during reading): After reviewing important vocabulary, the teacher will use shared writing to capture the collective ideas that answer the first question on the chart (example shown below). As you read, jot down responses from students that answer the second question, "How do animal structures and senses support behaviors and the survival instincts?" Also, chart different structures/senses students encounter as they read the text.

What's the difference between structures and senses?	
Animal Structures	**Animal Senses**
How do animal structures and senses affect behavior(s) and survival?	

**Teacher Note: Note types of animals and their structures/ senses to support students in building knowledge.*

Collaborative Task (after reading):

Using pages and copies of **9, 11, 18, 19, 23, 26, 32, and/or 36**, create a gallery walk – individual pieces of chart paper posted around the classroom – that contain the experiences provided in the text that are intended for students to perform to understand animal senses in specific ways. Students will take observational notes as they go to each "gallery" or chart paper with the experience posted. See the exemplar student response for ideas of how to set up each gallery.

What animal sense are you experiencing?	What was it like to experience this animal sense? Give details on what you did and thought throughout the experience.	What does this tell you about animal senses and structures? How do these structures/ senses affect certain behaviors or animal survival?
Gallery 1: • Seeing • Hearing • Tasting • Smelling • Feeling		
Gallery 2: • Seeing • Hearing • Tasting • Smelling • Feeling		
Gallery 3: • Seeing • Hearing • Tasting • Smelling • Feeling		
Gallery 4: • Seeing • Hearing • Tasting • Smelling • Feeling		

Gallery 5: • Seeing • Hearing • Tasting • Smelling • Feeling		

**Teacher Note: It is recommended that at least one gallery represents each of the five senses. You may not use each page listed above. If you use page 26, you will need a portable fan for the experience. Please read each page carefully before instruction as certain materials are needed and may not be readily available in your classroom. Consequently, use this activity as time allows. Students may not be able to experience each gallery. If this is the case, choose 3 or more.*

EXEMPLAR STUDENT RESPONSE

Interactive Anchor Chart:

What's the difference between structures and senses?	
Animal structures are the specific anatomy that make up an animal's body. Animals' senses are connected to structures. They are the function of many animal structures. For example, animals have a nose, which is their structure. An animal senses smell through its nose. The animal sense is the ability to smell.	
Animal Structures	**Animal Senses**
• Frog eyes • Skunk eyes • Kit fox ears • Deer nose • Butterfly feet • Walrus whiskers	• Frog eyes can see even when the rest of their body is below water. Their eyes can turn almost complete around. This allows them to see from many angles. • Skunk eyes allow them to see in the darkness. They have more rods, which enables night sight. • Kit fox ears have very large ears, which makes it easy to hear sounds from far away. • A deer's nose allows it to simply sniff the wind to find out if other animals are nearby. • Butterfly feet allow them to taste a flower before deciding to eat all its nectar. • A walrus' whiskers allow it to poke down in the ocean waters to feel for food.
How do animal structures and senses affect behavior(s) and survival?	
Animals have structures, like noses, that can sense various parts of their surroundings. Because an animal can smell a nearby-predator, it behaves in a way that triggers survival instincts. The animal will then know to hide, fight, or protect its young.	

Gallery Walk: Sample response to support page 23.

What animal sense are you experiencing?	What was it like to experience this animal sense? Give details on what you did and thought throughout the experience.	What does this tell you about animal senses and structures? How do these structures/ senses affect certain behaviors or animal survival?
Gallery 1: • Seeing • Hearing • Tasting • Smelling • **Feeling**	This experience made me think about what it would be like to be a mole. Because moles do not have ears, I wondered how they would feel something coming near them. After the experiment, I realized that the vibrations give them a great clue! When I put my hands on the wooden board, I could feel how close the hammer was. The further away, the fainter the vibration.	This experience showed me how important a mole's sense of touch was. It makes me wonder how I would react if I could not hear things and only feel the vibrations of the things around me. If I were a mole, it would make me want to run away or go closer to see if food was nearby.

Note: You will not see one specific skill indicated as the focus for the reading. Educators are encouraged to support students in arriving at the desired understandings for the reading by integrating multiple literacy standards. To that end, the question sequences integrate multiple literacy standards. The literacy standards will come into play as students access the rich texts included in the unit starter. In this way, multiple literacy standards naturally support students in accessing and making meaning of the text. Each question sequence drives toward the desired understanding for the reading.

PAGE/ PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Page 4	Teacher Think Aloud: We have just discussed the differences in animal structures and animal senses. Using that information, I wonder how I can make connections as a reader to what I already know and what the book tells me. This is making an inference. Since this book is about animal senses, I'm going to have to read and infer how animal structures and senses are different and go together. This page said that the snake could stick out its tongue and smell the air. What inference can I make about the snake's body structure? Turn and Talk	The snake uses its tongue to smell the world around it. The tongue is the structure that provides a sense of smell.

Page 6	Here we read that some animals can see wide views by turning their neck. How does this support their sense of vision? What behaviors are helped by these structures?	Because they can turn their heads flexibly, animals like the frog and the owl have a wide range of vision. These structures could help the frog to hide underwater when predators are near. Because the frog would see predators from long distances, it would know to hide until the coast was clear.
Page 10	What were the structures we read about on this page? How did this structure support predators' behaviors?	This page talked about eyes as an animal structure. Animals' eyes can have binocular or monocular vision. Binocular vision helps predators search for food because their eyes are on the front of their head, helping them focus on the same thing at the same time.
Pages 12-13	What behaviors might be promoted when a skunk sees a predator in the dark? What animal sense is this behavior reacting to? Turn and Talk	The skunk sprays animals that approach it when the skunk feels threatened. This means a skunk reacts to its sense of sight because it sees a predator and responds by spraying it.
Page 17	Why are long ears important for animals that live in a hot region?	Long ears help animals stay cool because heat escapes fastest through their ears.
Page 21	What is echolocation? How does echolocation use an animal sense? Which structure is supporting this sense? Turn and Talk	Echolocation is the way some animals locate objects like prey or predators. This happens when an animal hears the echoes of sounds bouncing off nearby objects. Echolocation uses an animal's sense of hearing, which is supported by the animal's ears. Bats have large ears and use echolocation.

Page 25	Why is the deer's lack of scent important when it is first born?	The deer doesn't have a scent when it is first born. This is important because some animals can smell from far away. The deer's lack of scent keeps it safe when it is a baby.
Page 27	What are some structures that support animals that cannot smell with their nose? Give examples with specific animal names and names of structures. Turn and Talk	Insects use their antennae to smell and catfish use their whiskers. Other aquatic animals, like the octopus, use their tentacles to smell and taste their food.
Page 33	While many animal tongues are used for tasting, tongues can serve a variety of purposes. What are some things this structure does for other animals?	**Answers may vary* A cat's tongue is used for lapping up milk or other liquids. They are used for cleaning their fur coat, too. Snails have tongues that are perfect for shredding plants. They are not smooth, but they have a texture that makes eating plants easier. Lizards can clean their eyes with their tongues.
Page 35	How could you describe a walrus' sense of touch?	A walrus' sense of touch is mainly through its whiskers. The whiskers allow the walrus to feel around in the water for food.
Page 37	Why do animals, like domesticated dogs, not feel everything that touches their skin?	Animals no longer sense things on their skin after a few minutes. If a pet dog was wearing a collar, it would stop feeling it after a few minutes. This allows the animal to ignore the stimulation and focus on new senses or feelings that may mean danger nearby or food.

Page 38	If a shark can sense the electricity of other "approaching friends," what type of behavior does this sense trigger?	Sharks sense food from electric currents in the water that are given off by other animals. This means the sense might trigger a behavior that leads to hunting for prey.
**Teacher Note:* *Use shared writing to chart answers on the interactive chart.*	How does an animals' senses promote different behaviors that lead to survival? Choose one animal to support your answer. How do animal structures and senses promote behaviors and survival?	*Answers may vary. A skunk uses its sense of sight to activate its spraying response. If a skunk did not have this ability to spray and ward off unfriendly animals, it could be an easy target for predators. Animals have structures, like noses, that can sense various parts of their surroundings. Because an animal can smell a nearby-predator, it behaves in a way that triggers survival instincts. The animal will then know to hide, fight, or protect its young.

ANIMALS THAT MAKE ME SAY WOW! – READING 1, QUESTION SEQUENCE 1, DAILY TASK 2

TEXT
Text: *Animals That Make Me Say Wow!* By Dawn Cusick **Question Sequence:** First Read **Instructional Strategy:** Shared Read* Pages 53-73 **Teacher Note: This shared reading lesson is meant to follow the question sequence for Animal Senses. Because of the simple structure of the book and the relatable knowledge the text provides on the unit content goals, this text will be broken down into multiple shared reads throughout the unit.*

TEXT COMPLEXITY ANALYSIS	
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QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is slightly complex. The text's organization is clear and text features support it. The text is divided into clear sections including: "Defense," "Foraging," and "Anatomy." It also includes an introduction. Within each section, there are several examples of different animals' characteristics and their uses. Most of these are explicit. The pictures support the information on the page and aren't essential but directly assist with interpreting the written text.	The language features are moderately complex. Most syntax contains simple sentences. There are a few domain specific vocabulary words. There is context for these examples to support the reader in determining the meaning.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The meaning/purpose is slightly complex. The purpose is explicitly stated in the introduction. The focus is on animals and is also explicit (animals' defenses, behaviors, and internal/external characteristics).	The knowledge demands are moderately complex. The text contains some discipline-specific content knowledge Some of the knowledge is more complicated – making the implicit connections between the features and their impact on behavior, survival, growth, etc.

DESIRED UNDERSTANDING(S) FOR THIS READING
The anatomy of an animal includes both internal and external structures. Animal structures promote behaviors that protect them, feed them, and help them communicate with other animals.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- internal structures (explicit)
- external structures (explicit)
- anatomy (explicit)
- instinct (explicit)

**Teacher Note: These words are in the inferred meanings of this text and unit. To support students in building knowledge, it is sometimes necessary to explicitly teach words that are not in the book but can be used during student conversations connected to the text.*

DAILY TASK

Collaborative Task: During the shared reading of *Animals That Make Me Say Wow!* students will participate in an interactive chart. The teacher will provide a definition of internal structure and external structures.

> **External structures** - an animal's external, or outer, structures are what you see on the outside of their body (legs, tail, etc.).
>
> **Internal structures** - an animal's internal structures are the important pieces and parts of their body systems (heart, stomach, etc.).

As the teacher reads, students will contribute their thinking on sticky notes, providing examples from the text of internal structures and external structures.

Internal Structures: (Define)	**External Structures:** (Define)

**Teacher Note: Teachers should use precise language while charting regarding the structure to support students' building of knowledge over time.*

**Teacher Note: This task is meant to be completed after the first reading of both Animal Senses and Animals That Make Me Say Wow!*

Independent Daily Task: Write an informational text that answers each of the following questions:

- What are animal senses?
- What are animal structures?
- How do animals' senses and structures affect certain behaviors and survival instincts?

Your writing should:

- introduce your topic;
- develop the topic with facts, definitions, and details;
- use linking words and phrases to connect ideas;
- use precise language from the vocabulary you studied while learning about animals' internal/external structures and their functions; and
- provide a conclusion to provide closure for your readers.

EXEMPLAR STUDENT RESPONSE

Collaborative Task Exemplar: *Answers may vary.

External structures - an animal's external, or outer, structures are what you see on the outside of their body (legs, tail, etc.).	**Internal structures - an animal's internal structures are the important pieces and parts of their body systems on the inside (heart, stomach, eyes, skin etc.).**
• Sea otter flippers for swimming • Walrus whiskers for feeling for food in water • Octopus tentacles for smelling and tasting food • Rattlesnake rings of keratin (rattles) • Lizard tails can detach if being chased by a predator • Worm snake scales • Bird toes to wrap around branches	• Cuttlefish's large brain to problem solve • Frogfish, Rockfish camouflage of their skin • Alligator and Crocodile dermal pressure receptors to stay in water • Fused skeleton bones in birds to help them fly and dive for food • Arctic foxes have genes that help their fur coat change color during the cold to protect itself.

Individual Student Response:

Animal senses are an animal's ability to experience their environment through sight, smell, hearing, tasting, and feeling. Animal senses prompt certain behaviors in animals. For example, a bat will hear sounds from far distances. This is due to their large ears and echolocation. Echolocation is the ability to determine the location of nearby objects or predators by measuring the amount of time it takes for sounds or echoes to bounce off objects in the distance. Animal senses promote many behaviors. Some animals use their sense of touch to find food, like a walrus. A walrus uses its whiskers to search for food in the ocean water and sand. Other animals use their sense of smell to activate behaviors that protect themselves and their young. Some animals use their scent to know when it is time to flee upcoming predators. This is a survival instinct. A survival instinct lets animals know when danger is near. Many animals rely on certain senses and body structures to remain free from harm.

It is important to know that animal senses would not be possible without certain animal structures. While each animal does not have the same structures or senses connected to such structures, animals rely heavily on structures to inform

their day to day behavior. For instance, the European swallowtail butterfly does not have a nose, like many other animals. Instead it has feet, which is a structure that helps the butterfly taste the nectar on flowers before deciding to eat. Butterflies must eat nectar from flowers to survive. Cuttlefish do not have paws or feet to touch things, but they use their eight tentacles to grab their food. Each animal is different, but one thing is for sure- animals need their structures and senses to survive!

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Page 54	What might be some important structures of an aquatic animal's anatomy?	Aquatic animals need webbed flippers or feet to help them swim in the water. Other aquatic animals may need whiskers to help them sense the movement in water to find food.
Page 56-57	What internal and external structures are prominent for a cuttlefish? How do these structures promote certain behaviors? Turn and Talk	A cuttlefish has a large brain, which supports problem-solving. This helps stimulate a survival instinct to hunt food. The tentacles are an external structure that are used when hunting food as well. The tentacles have neurons which allows the cuttlefish to put pressure on fish that are caught in the cuttlefish's multiple tentacles.
Page 60	"Dermis" means skin. It is the layer of tissue below the epidermis which is our outer layer of skin. Here our book says some animals have dermal receptors. What are dermal receptors? What behaviors do these dermal receptors promote with an alligator?	Dermal receptors are special sense organs on animals' bodies. Dermal receptors allow the alligator to pick-up low frequency sounds from other reptiles or animals in the water. This leads to alligators hunting or fighting for their food. These dermal receptors also allow the alligator to communicate with other animals in the water.
Page 61	Why would a rattlesnake's rings of keratin be a sign of a survival instinct? Turn and Talk	Rattlesnakes shake their rattles when they feel threatened. The tip of their tail shakes fast when they feel they are in danger. This warns off possible predators and helps the snake survive.
Page 63 3.RI.IKI.7	What unique structure supports an eagle's ability to fly around with a freshly caught fish?	The eagle has talons, which are external structures that allow the eagle to grip a fish while flying. This is unique because talons have a grip even stronger than human hands.

	*Use illustration to guide student answers as needed.	
Page 66	Animal genes are internal structures so small the human eye cannot see without special equipment. An arctic fox's genes cause it to change the color of its coat in the winter. How does this benefit the arctic fox? Turn and Talk	The arctic fox benefits from changes in the color of its coat because the change acts as a camouflage when the snow covers the ground. This makes it harder for larger animals to hunt the fox. It makes it easier for the fox to sneak up on prey since it blends in so well with its surroundings.
Page 69	How does an elephant shrew's nose promote feeding behaviors?	The elephant shrew can sniff out insects from far away or hard to reach distances.
Page 72	How do porcupines use their structures to protect themselves?	Porcupine quills have hundreds of barbs that make it hard to move. If a porcupine is threatened, they are protected by their quills because it would hurt a predator to be stuck by so many sharp needle-like hairs!
	How do animal structures promote behaviors that protect them, feed them, and allow them to communicate with other animals? Turn and Talk	*Answers may vary. Animal structures promote feeding behaviors because a bear can smell food and know it is time to hunt for its next meal. Animal structures allow animals to feed in many ways. Some structures, like noses, let animals know it is time to find food. Other structures, like tentacles catch and kill food, making it easier to chomp on a yummy bite. Animal structures promote communication in different ways, too. Some animals, like alligators communicate through messages received in their dermal receptors, and other communicate through rattling sounds of a keratin ring within a rattlesnake!

ANIMALS THAT MAKE ME SAY WOW! – READING 2, QUESTION SEQUENCE 2, DAILY TASK 3

TEXT

Text: *Animals That Make Me Say Wow!* By Dawn Cusick

Question Sequence: Second Read

Instructional Strategy: Shared Read Pages 7-22

DESIRED UNDERSTANDING(S) FOR THIS READING

Some animals behave in specific ways to survive. Some animals have unique external and internal features that support survival.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- exoskeleton (embedded)

DAILY TASK

Think about all the animals we have been learning about this week and their unique structures. Consider which animal you think it best prepared to survive in its habitat based on its structures and their functions. Write an opinion piece to explain what that animal is and why you think it is best prepared for survival. In your paragraph, be sure to:

- Introduce your topic and opinion (Why is your animal best prepared to survive?);
- Provide reasons that support your opinion;
- Use linking words (e.g., because, therefore, since, for example) to connect your reasons to your opinion; and
- Provide a concluding statement to provide closure for your reader.

EXEMPLAR STUDENT RESPONSE

There are many amazing animals in our world that have external structures to help them survive. In my opinion, the leopard is the animal that is best prepared to survive in its habitat because it has many incredible external structures. Leopards are known for their spots. These spots are an external structure that help camouflage the leopard when it is in the wild. The spots break up the outline of the leopard's body which makes it difficult to see. Other examples are leopard's sharp claws and very strong legs. These structures allow leopards to climb trees. Leopards can

even climb down a tree head first. Also, their muscular legs allow them to climb trees with their prey. They can carry recently killed prey up a tree even if the prey weighs a lot more than the leopard. As you can see, leopards have many external structures that help survive in their habitats. Therefore, I think leopards are the animals that are best prepared to survive!

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Page 7	Our text says, "…animals use some amazing adaptations in their bodies and behaviors to help them compete." With whom are they competing and why? Who remembers what dermal receptors are? How do they support animals?	Animals compete with one another. They compete because there are limited resources like habitats and food, so they must compete with one another to get what they need to survive. Dermal receptors are sensors on the skin. They help animals locate or sense prey.
Pages 10-11	What external structures do leopards have and how do those support their behavior? How do they help them survive?	Leopards have sharp claws, strong muscles, and good balance. These structures help leopards climb up and down (head first) trees. Leopards could climb trees to escape predators or to catch prey. They can also carry recently killed prey up trees to prevent other animals from stealing it.
Page 13	How are crabs able to survive in their environments? Use specific evidence and vocabulary from the part of the text we just read together.	Young crabs survive in the underside and top of jellyfish because the jellyfish tentacles cannot reach them there. When they get older, the crabs' exoskeletons harden and become like armor. The hard exoskeleton protects them from the stinging tentacles on the jellyfish.
Page 14	Discuss with your partner: explain whether baby squirrels are vulnerable at birth. Use text evidence from what we read when you make your case to your partner.	*Answers will vary Agree: Newborn squirrels lack external structures which makes them vulnerable until about 7 weeks. They are born without fur and their eyes and ears are closed. Disagree: Although baby squirrels are born without fur and with closed eyes and ears, the mothers protect them by building their nests in

		tree holes or leaves. This helps them be less vulnerable to predators.
Page 17	How do animals compensate for their lack of external or internal structures? Why do they do this? Explain using a specific example we have read about the past few days.	Some animals compensate for their lack of external or internal structures to stay alive. One example is the ring-neck snake. They don't have venom – an internal structure – so they camouflage themselves in leaves and soil to avoid predators.
Page 21	What external structures do armadillos have that are "like armor?" How is this similar to the older crabs we read about earlier? Use specific vocabulary we have learned.	Armadillos have scutes that are protein-covered bones. These scutes act as an exoskeleton and protect the animal from predators' bites/stings and the environment where the terrain is rough. This is similar to the hard exoskeleton older crabs develop which protects them from the stings of the jellyfish.
After the reading	Turn to your partner and summarize why animals' external and internal structures are important. Partner A will share one strong example of how an internal or external structure promotes an animal's behavior. Partner B will share one strong example of how an internal or external structure supports an animal's survival.	*Answers will vary but should include specific examples and precise vocabulary from readings.*

BULLFROG AT MAGNOLIA CIRCLE – READING 1, QUESTION SEQUENCE 1, DAILY TASK 4

TEXT

Text: *Bullfrog at Magnolia Circle* By Deborah Dennard

Question Sequence: First Read

Instructional Strategy: Shared Read

DESIRED UNDERSTANDING(S) FOR THIS READING

Like many animals, bullfrogs have biological structures (bulging throat, webbed feet, strong hind and front legs, skin over eyes) to support their behaviors and survival in their habitats like the waters of a bayou.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- prey (explicit)
- bulge (embedded)
- bayou (embedded)

DAILY TASK

Write a short narrative piece from the perspective of a bullfrog. In your story, explain what a typical day in the bayou is like for you, including descriptions of what you typically see and do and how you are able to experience those things given the specific internal and external structures you have. In your story, be sure to:

- Introduce yourself (as the bullfrog!) as the narrator of your story;
- Organize the events of your day logically;
- Use temporal words and phrases to show the order of the events as you experience them;
- Use imagery to describe the events, actions or experiences; and
- Provide an ending – closure – to your story.

EXEMPLAR STUDENT RESPONSE

My name is Gordy the bullfrog, and I live here in the waters of the most beautiful bayou in Louisiana. I fill my days with exploring the bayou, feasting on the many unsuspecting insects that live here, and looking for the perfect mate to share my home with here.

A typical day for me usually begins with waking up on the slippery, broad lily pad leaves. With my strong back legs, I can spring into the air and back down into the water where I swim around looking for food. I have special skin over my eyes which helps me see through the murky waters below the calm surface of the bayou. Oh, all the scuttling critters I get to see! However, I swim past them because today I am hungry for the crispy wings of a dragonfly. My webbed feet help me swim to the bank of the bayou where I scout out my first treat. After I spot my lunch, I carefully wait until I am in reach. Then I pounce! My sticky tongue really does most of the work. My tongue latches onto the dragonfly and pulls it into my mouth. Yum! I use my front legs to help push the fly down into my throat to enjoy. Now, time for some rest. I float effortlessly on the waters of the bayou. I can see the large trees covered in Spanish mosses dipping into the waters by the edge. I make sure to look out for predators like the great black herons nearby. At the end of the day when night falls, I get myself ready to look for a mate. I prepare my singing voice! My yellow throat bulges wide, and it is ready to bellow out a deep, loud croak. I hope it is loud enough for my true love to hear! I spend the night croaking and avoiding other males who are also looking for a mate. I grow tired. I didn't find a mate tonight, but I will look forward to another day in the beautiful bayou tomorrow.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Page 5	What imagery does the author give us to describe the setting?	The author says: • the "lightening zigzags through the early evening sky…" • "the bayou waters slowly wind their way behind the house…" • "thunder rumbles"
Page 6	Our text says the bullfrog's throat is "yellow and bulging." Using the text and the illustration of the bullfrog, what does bulging mean? Why does the bullfrog's throat bulge?	Based on the text and illustration of the bullfrog, bulging means to swell or get bigger. The bullfrog's throat bulges, so it can make its sounds.
Pages 8-10	What external *and* internal structures allowed the bullfrog to consume the crayfish?	The bullfrog needed its webbed feet to swim through the duckweed in the bayou and leave the water. It also needed its long sticky tongue to grab the crayfish as it left its home in the mud. The bullfrog also needed its strong front legs to help push the prey – the crayfish – down into its mouth.
Page 12	Describe the storm. What imagery in our text helps you feel the weather?	The storm is strong but not violent. I used these adjectives because the author gives us imagery like "the rain cascades from the sky" and "huge oak trees covered in Spanish moss sway in the warm, heavy air." These images

		make it seem as though it's storming, but not violently, or wildly.
Page 16	How does the moth "become part of [the bullfrog's] evening meal?"	The bullfrog's large eyes and sticky tongue allows it to snap up the moth that was sitting on a wild weed.
Pages 18-21	Describe what is happening between the heron and the bullfrog. What biological structures – their internal or external structures – support their interaction?	The black-crowned heron spots the bullfrog as prey. The heron has feathered-wings which allows it to move and land silently in the water, so it doesn't alert the bullfrog. The heron stalks the bullfrog, trying to kill it with its long sharp beak, but a loud noise startles them both, and the bullfrog's strong legs allows it to jump away into the water.
Page 27-28	Our text says: "or he might simply do battle with his deep bass voice, calling and calling." How will the bullfrog's voice help him battle the other male frogs, and what are they battling for?	The bullfrog's deep bass voice will help him battle the other males by being the loudest, deepest voice on the bayou. They are battling each other to find a female mate. Their voices attract the mates.
Page 28	How are the bullfrog's structures supporting his mating behaviors? Provide specific details from our text.	His strong legs allow him to swim out into the bayou's water by the lily pads, which is a nice location for a female mate to lay eggs. His deep voice allows him to attract a female mate out in the water. The bullfrog's special skin over its eyes allows it to see underwater as it swims, so it can find a location to mate and have eggs laid.
After the reading	How does the bullfrog live in the bayou?	*Answers will vary but should include:* • The bullfrog has specific internal and external structures that help it survive in and out of the water. • Its strong legs, webbed feet, and special skin over its eyes allow it to see underwater, swim, and jump to catch prey and avoid predators like birds.

		• Its bulging throat allows it to emit a deep, loud croaking sound that attracts mates.

ANIMALS THAT MAKE ME SAY WOW! – READING 3, QUESTION SEQUENCE 3

TEXT
Text: *Animals That Make Me Say Wow!* By Dawn Cusick **Question Sequence:** Third Read **Instructional Strategy:** Shared Read Pages 23-31

DESIRED UNDERSTANDING(S) FOR THIS READING
Animals have unique internal and external structures that allow them to protect and defend themselves and their young. In this way, their structures support their survival and impact their behaviors.

VOCABULARY WORDS
The following words are introduced during this reading. Suggested instructional methods are included in parentheses. • herd (embedded) • pod (embedded) • primate (embedded) The following words are reinforced during this reading: • echolocation • predator

DAILY TASK
There is no separate daily task for this shared reading. Students will spend time completing the daily task for the Interactive Read Aloud of *How to be an Elephant*.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Page 24	How do dolphins' and whales' internal structures influence their individual and group behaviors?	Dolphins and whales have air sacs beneath their blowholes that help them make sounds like clicking, whistling, and pulsing. These

		sounds are used for communication in groups call pods or individually. The sounds also help them find food through echolocation.
Page 27	How do some primates' external structures – appendages like their arms – impact their behavior and reproduction? Use a specific example and vocabulary from our text to support your answer.	Since they carry their young in their arms, primates typically have fewer offspring. For example, female orangutans usually only have one baby every eight years.
Page 28	Why do baby elephants stand close to their mothers? Why don't adult elephants do the same?	Baby elephants have predators like lions and hyenas that will try and attack them. Adult elephants do not have predators because of their size. Therefore, they do not need to stand close to one another to avoid predators.
Page 31	How do marsupials' biological structures support their young?	Marsupials have pouches where their offspring can live in the early days of their lives. This protects them from predators.
After reading	Discuss with your partner: Select two different animals and explain how they each have unique internal or external structures that impact their behaviors. Be sure to use specific vocabulary and details from the texts we have read so far.	**Answers will vary but should include specific vocabulary and details.*

HOW TO BE AN ELEPHANT – READING 1, QUESTION SEQUENCE 1, DAILY TASK 5

TEXT
Text: *How to Be an Elephant* By Katherine Roy **Question Sequence:** First **Instructional Strategy:** Interactive Read Aloud **Teacher Note: Due to the length and complexity of this text and task, it is the only text being read during whole group instruction for this lesson.*

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
NC 1310L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is very complex with a mix of narrative and informational structure. Lush, watercolor illustrations enhance the narrative, and detailed diagrams help the reader understand the development of the elephant.	The language features are moderately complex. Most of the text reads easily but includes some possibly unfamiliar vocabulary. Both the narrative and informational text are written in a conversational tone. There are many academic and domain-specific vocabulary words: matriarch, pillar-like legs, totters, acacia, olfactory bulb, appendage, resonance, repertoire, cuisine, formidable, several musical metaphors, sparring, courting. The sentence structure pushes toward very complex since most of the sentences are compound or complex.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of the text is moderately complex. The purpose is clear. The text seeks to provide information about how elephants learn to survive from their communities. It explores internal and external structures that elephants use to understand the world around them and to survive in it.	The knowledge demands for this text are moderately to very complex. Readers would be familiar with elephants, but may not have a strong understanding of how elephants learn about their surroundings and develop survival strategies. There are several musical metaphors, which may not be clear to readers without some musical background knowledge.

DESIRED UNDERSTANDING(S) FOR THIS READING

Elephants have specific internal and external structures and behaviors that allow them to survive. Some structures allow the animal to behave in certain ways, such as forming groups, and continue the existence of a species.

VOCABULARY WORDS

The following words will be introduced during this reading. The suggested instructional methods are included in parenthesis.

- stable/Stability (embedded)
- treasury of knowledge (explicit)
- generations (explicit)
- vocal cords (embedded)

**Teacher Note: Vocabulary may be explicitly taught before or after reading. The explicit vocabulary instruction within this read of How to Be an Elephant may be more appropriate after reading due to the question sequence.*

DAILY TASK

During Reading: As you read the text and students are exposed to new internal and external structures of the elephant, add them to the anchor chart of internal and external structures from the previous day.

Independent Task:
Pass the Reflection: **Teacher Note: Students will complete this task as a group of three.*

You will have 10 minutes to independently write a reflection in consideration of the following bullet points:

- What are some examples of an elephant's external and internal structures?
- How do these structures support elephants' survival?
- How do elephants learn what they need to know to survive?

Please write legibly so your classmates can read your writing. Write in complete sentences that include text evidence and details. As a challenge, try to use the vocabulary we focused on today in your writing.
In your writing:

- Introduce a topic;
- Group related information together;
- Develop the topic with facts, definitions, and details from the text we read;
- Provide a conclusion;
- Use linking words and phrases to connect ideas within categories of information; and
- Use precise language we've studied (stable/stability, treasury of knowledge, generations, vocal chords, etc.).

After your individual reflection time, you will pass your reflection to the person on your right. The person to the right will read your reflection and respond to your writing by doing one or more of the following:

- Add on to your thinking by connecting similar ideas

- Ask you additional questions to prompt your thinking
- Introduce a new idea for you to consider or add onto your idea using evidence from the text we have read

You will also respond to the person to your right. You must write your response in 5 minutes. During this time, you can ask an additional question and add on using evidence from the text we just read. This process will repeat with one more classmate. After two classmates respond to your reflection, you will receive your original paper and read the responses and feedback from your peers and then use that feedback to revise your original piece.

Alternative Task:
We've read a tremendous amount about elephants. Write an informational paragraph answering the following questions:

- What are some examples of an elephant's external and internal structures?
- How do these structures support elephants' survival in their environment?
- How do elephants learn what they need to know to survive?

In your writing, be sure to:

- Introduce a topic;
- Group related information together;
- Develop the topic with facts, definitions, and details;
- Provide a conclusion;
- Use linking words and phrases to connect ideas within categories of information; and
- Use precise language we've studied (stable/stability, treasury of knowledge, generations, vocal chords, etc.).

EXEMPLAR STUDENT RESPONSE

Pass the Reflection:

Independent Reflection:	Elephants live in social groups, and they gain a treasury of knowledge from generation to generation. They continue to learn from each other as they grow into adulthood. This behavior allows them to share resources, stay away from danger, and raise young elephants together. Elephants have many internal and external structures that help them survive. The trunk of an elephant has many jobs. It can be used to complete tasks and take in information for elephants to process in their brains. An elephant's skin and ears help it to stay cool in hot temperatures. The skin of an elephant has wrinkles that trap moisture and keep the elephant cool. Their ears act like fans when they flap, and they also release heat from the elephant's body into the air. These structures help elephants survive in their environment.
Partner Response #1:	I agree that elephant trunks have many different jobs. Their trunks are like hands that allow the elephant to pick up big and small things, including food. Their trunks can also work like a shower. I also remember hearing that an elephant's trunk helps the elephant "see" the world. Elephants have poor eyesight, so they follow their nose and see the world using their trunks. Elephants use these structures to survive. If they were unable to use these structures, they may possibly struggle to interact in their environment and eventually become extinct.
Partner Response #2:	What are some elephant structures that help them interact in their social groups? I

	remember later in the text, it talked about vibrations. Elephants make calls to each other to stay in touch and make sure they know where other elephants in their social group are headed. They can track each other with the tips of their trunks or their feet.

**Teacher Note: The answers students provide will vary based on the information students connect back to the text. Responses will vary based on the original student thinking.*

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Page 8	How do young elephants learn about physical and social behaviors?	Young elephants learn physical and social behaviors of elephant life from their family.
	The text refers to the knowledge they gain as a "treasury of knowledge." What does treasury of knowledge mean? Follow up: Why might they refer to it as a treasury? **Teacher Note: This may be an appropriate time for peer-to-peer discussion.*	A treasury of knowledge means that elephants have a lot of knowledge, or a wealth of knowledge. A treasure is something valuable, so a treasury of knowledge is knowledge that elephants might value or need to survive.
	What does the text mean by "knowledge is passed down through the generations"?	That phrase means that knowledge is shared from family member to family member over many years. Each new group of elephants gains the knowledge from the many groups that came before them.
	Why is an elephant's family, or social group, important to an elephant's survival?	An elephant's social group is important because they work together to find and share resources, fight off danger, and care for each other to survive.
Page 9	What are two of the elephant's external structures mentioned on this page?	The two external structures the author mentions are the elephants' pillar-like legs and shock-absorbing feet.
	How does an elephant's legs and feet support its survival?	A baby elephant can be an easy target for predators. However, its legs and feet allow it to walk shortly after birth to avoid predators. The legs and feet of an elephant also allow it to be on the move in many ways (walking, swimming, kneeling,

		and climbing).
	What might happen to the baby elephant if it did not have these features?	The baby elephant wouldn't be able to walk shortly after birth, causing it to be at risk from predators. If an elephant didn't have these features, it would be unable to move or complete many tasks. If baby elephants didn't have these features, then many babies would die, which might lead to extinction.
Page 15	How does an elephant use their internal structures, lungs and vocal chords, to help them continue to exist?	Elephants use their lungs and vocal chords to create calls using their voice. These calls help an elephant to communicate with its family or scare away a predator. In order to continue to exist, elephants must have the ability to protect or defend themselves. There lungs and vocal chords help them do this.
	What were some specific words and phrases in the text that helps you know how elephants use their lungs and vocal chords? **Teacher Note: This may be an appropriate time for peer-to-peer discussion.*	The text said elephants make sound by pushing air out of their lungs and across their vocal chords. The text also said that elephants bark, cry, grunt, and trumpet to call to their family.
Page 20	What environment do elephants live in?	Elephants live in the savanna.
	In what ways do an elephant's skin and ears allow it to adjust its body to survive in the savanna?	An elephant's skin has wrinkles that collect moisture. When the moisture evaporates, it cools the elephant's body temperature. The ears of an elephant act like fans that provide a cool breeze. They also have blood vessels that give off heat into the air. These adaptations allow the elephant's body temperature to remain near 97° F.
	Why is it important that elephants stay cool?	Elephants live in environments with warm temperatures. It is important that elephants stay cool to live in their surroundings. Like humans, when our bodies are too hot, we don't feel well, and we are unable to complete tasks. Elephants' bodies must remain cool to stay in working condition that supports their survival.

Page 35-37	What has happened now that the elephant has survived into adulthood?	Now that the elephant has survived into adulthood it is having a baby.
	What would have happened if this elephant had not survived to adulthood?	If the elephant would not have survived into adulthood, it would not be able to have a baby, and the herd would not grow.
	What would happen if none of the elephants in this herd or in the world survived to adulthood?	If none of the elephants in this herd survived to adulthood, there would be no new babies. Eventually, the herd would die out. If no elephants in the world survived to adulthood, there would not be any new elephants anywhere and the species would not continue to exist.

HOW TO BE AN ELEPHANT – READING 2, QUESTION SEQUENCE 2, DAILY TASK 6

TEXT

Text: *How to Be an Elephant* By Katherine Roy

Question Sequence: Second

Instructional Strategy: Interactive Read Aloud

**Teacher Note: Reread page 13 which is focused on the elephant's nose.*

DESIRED UNDERSTANDING(S) FOR THIS READING

Elephant noses can be considered both internal and external structures because of their multiple functions.

VOCABULARY WORDS

The following words will be introduced during this reading. The suggested instructional methods are included in parenthesis.

- appendage (explicit)
- precision (explicit)
- multipurpose (embedded)
- coordination (embedded)

DAILY TASK

This task was intended to be completed after the accompaniment of the following text *What If You Had an Animal Nose?*

Generate - Sort - Connect - Elaborate: Concept Map (Making Thinking Visible)

Collaborative Task:
**Teacher Note: Students should work in collaborative groups of 4-5 students to complete the Generate, Sort, and Connect portions of the task. Teachers will need to select pictures of animal noses for students to sort and analyze.*

You will work with your team collaboratively to create a concept map about the unique characteristics of animal noses. You will use the knowledge you've gained in both *How to Be an Elephant* and *What If You Had an Animal Nose?* You will consider the following:

- What are the functions of animal noses?
- How do animal noses help species survive in their environment?

You and your team will do the following task items together:

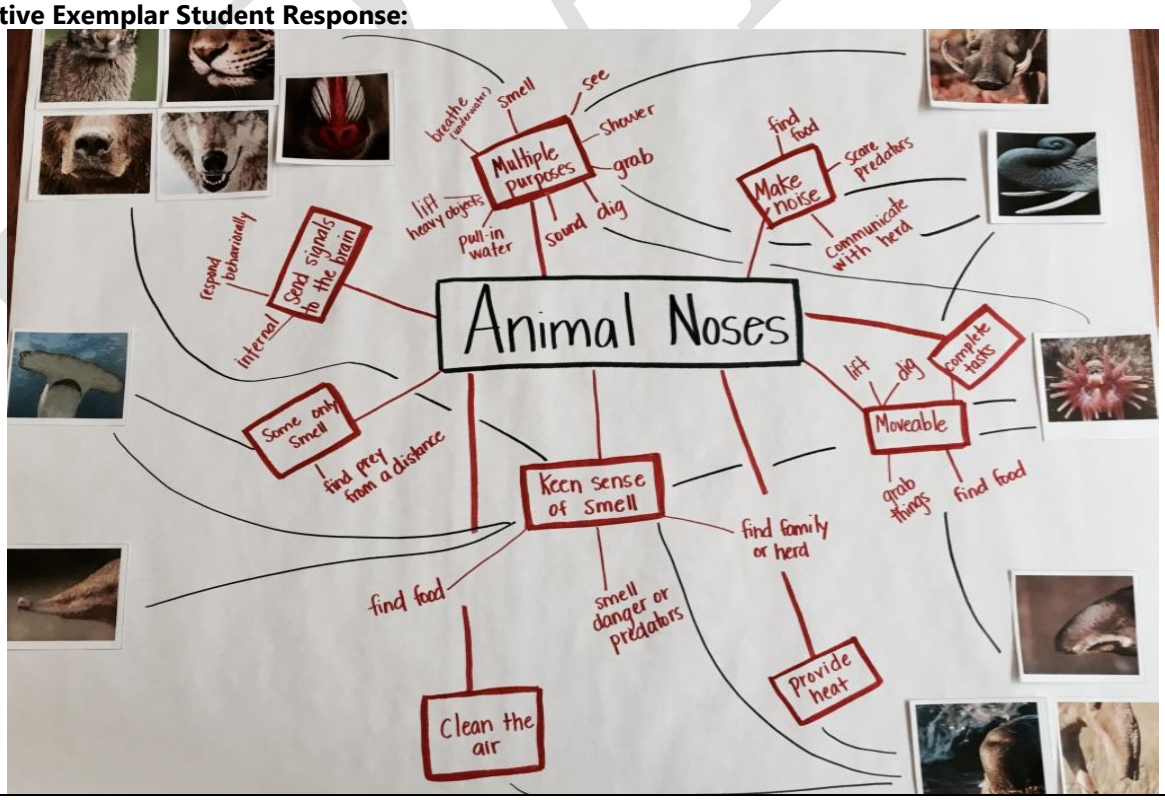
- Generate: create a list if ideas and initial thoughts that come to mind when you think about this topic.
- Sort: sort the pictures you have sourced and facilitate a collaborative discussion. Sort your ideas according to how central they are. Place central ideas near the center and group related ideas together.
- Connect: draw connecting lines between the ideas that have something in common. Explain and write on the line in a short sentence how the ideas are connected.

Independent Task:
You will complete the elaborate portion on your own. Elaborate by explaining whether you think noses should be considered external structures, internal structures, or both by adding new ideas that expand, extend, or add to your group's initial ideas. Be sure to include information from the two texts to support your answer.
Be sure to do the following when writing:

- Introduce your topic;
- Group related information together;
- Develop the topic with facts, definitions, and/or details;
- Provide a conclusion;
- Use linking words and phrases to connect ideas; and
- Use precise language (appendage, precision, multipurpose, coordination, etc.).

EXEMPLAR STUDENT RESPONSE

Collaborative Exemplar Student Response:



Independent Exemplar Student Response:
Animal noses can be considered internal or external structures depending on their purpose. Some noses interact with the brain by sending signals that encourage the animal to make a behavioral response. Animals, like the grizzly bear, use their noses to find prey and stay away from predators to survive. Some noses complete tasks like digging, lifting, showering, and grabbing objects. Elephants and warthogs use their noses to complete many different tasks. These tasks also play a part in the animal's survival. The tasks they complete with their noses allows them to interact with their environment. Animals' noses serve multiple purposes that impact an animal's ability to survive.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Page 13	An appendage is a body part connected to the main part of the body, like an arm or a leg. How is an elephant's trunk a multipurpose appendage?	The text says an elephant's trunk is part hand, part arm, part nose, and part shower. That means it has multiple purposes and functions.
Page 13	The author provided us with a very informative graphic. What does this graphic describe about an elephant's trunk? Follow Up: How does this graphic support you in understanding the many purposes of an elephant trunk? **Teacher Note: This may be an appropriate time for peer-to-peer discussion.*	The graphic describes the many purposes of an elephant's trunk. The graphic uses illustrations and labels to help us see that elephants use their trunks to complete many tasks in various ways.
Page 13	How does an elephant's trunk help it complete tasks? Why is it important for the elephant's trunk to be both strong and precise?	An elephant's trunk can serve as a hand, a crane, a shovel, a shower, and pincers. These purposes of the trunk allow the elephant to complete tasks like scratching, making a gesture, digging, bathing, picking up small object, and uprooting heavy trees. An elephant's trunk is both strong and precise. It is important for the trunk of an elephant to be strong for it to be able to lift heavy things. An elephant must also be precise to pick up smaller objects.

Page 13	The trunk of an elephant can also be considered an internal structure because it interacts with other internal structures. How might an elephant's trunk help it receive and send information?	The text says that a trunk helps the elephant to smell and sound. I think the elephant receives information from the smells around it. The elephant uses its trunk to make sounds. This allows the elephant to send information and communicate with other elephants.

WHAT IF YOU HAD AN ANIMAL NOSE? – READING 1, QUESTION SEQUENCE 1

TEXT
Text: *What if You Had an Animal Nose?* By Sandra Markle **Question Sequence:** First Read **Instructional Strategy:** Shared Read

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
710L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. The text follows a predictable pattern on each page. The text presents information, a fact, and a fun human connection on each page. The text features included in this text enhance the reader's understanding of the content and are mostly supplementary.	The language features are moderately complex. The conventionality of the text is largely explicit and easy to understand. The text presents many new animal names and content specific vocabulary. There is large usage of simple sentences; however, there are sentences that are compound or complex and introduce the use of dashes.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of the text is moderately complex. The purpose of the text is clear that animals have different noses that are used for different and specific purposes. However, there is an implied meaning that animals use their noses to survive which allows them to continue to exist. The text also explores how noses can be both external structures and internal structures, but that is not clearly communicated to the reader.	The knowledge demands for this text are moderately to very complex. The level of knowledge demand relies on a both practical knowledge and content-specific knowledge. The text includes a mixture of simple and more complicated ideas. However, there are connections across texts and outside ideas presented.

DESIRED UNDERSTANDING(S) FOR THIS READING
Animal noses are multifaceted. They serve a variety of purposes depending on the species and the environment. Animal noses help with the completion of tasks and prompt some behavioral responses.

VOCABULARY WORDS
The following words are introduced during this reading. Suggested instructional methods are included in parentheses. • smell sensors (explicit) **Be sure to address how smell sensors interact with the brain.* • hibernation (embedded)

DAILY TASK
The related task is provided earlier in the unit starter. See task for the first reading of *How to Be an Elephant*.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Page 4	How would you describe the tapir's nose?	The tapir's nose is big and moveable. It can also bend.
	How does the tapir's nose help it survive in its environment?	The tapir uses its proboscis, or nose, to grab leaves or fruit to eat. It also helps the tapir find food at night by bending in all directions.
Page 10	Remember, we read about grizzly bears earlier in our unit. How does a grizzly bear's nose help it survive?	The smell sensors allow the grizzly bear to track down food from miles away. Once a grizzly bear smells food, its smell sensors send a message to his brain. Grizzly bears must eat a lot to prepare for winter, so being able to smell food is very important.
	The text says that the grizzly bear's smell sensors are 100 times bigger than human's. What does that imply? Why do bear's need this ability? **Teacher Note: This may be an appropriate time for peer-to-peer discussion. Consider using an A/B partner talk structure. One student should contribute an answer and the*	Because grizzly bears have smell sensors that are a hundred times bigger than humans, they have a better sense of smell than humans. They can smell things from farther away. Since food may not be available close by, grizzly bears need to be able to find that might be far away so they can eat enough before hibernating.

	other partner should use accountable talk to provide feedback or additional thinking.	
Page 12	How and why does a warthog's nose have more than one purpose?	The warthog's nose both completes tasks and receives information. The warthog uses its nose to smell its food. When it smells its food, a message is sent to its brain and then the warthog responds by searching for and finding the food that was smelled. The warthog also uses it nose to dig soil and lift out dirt. The warthog needs its nose to do these things to continue to find food and survive.
Page 16	The star-nosed mole is a burrowing animal, meaning he lives mostly underground. How does his nose help him survive in his underground environment?	The star-nosed mole uses its nose to search for food in the dark and underground. Its nose smells and feels for food, using its twenty-two rays that always move. To continue to survive, star-nosed moles need different ways to find food in the dark.
Page 20	Where is the nose of a giant anteater? What tasks does the anteater's nose allow it to complete? Why are these tasks important?	The nose of the giant anteater is on the tip of his jaws. The nose of an anteater allows it to poke through hard-to-reach places to sniff for food. It also uses its nose to breathe underwater when it goes swimming. These tasks are important because they allow the anteater to find sources of food, or energy, and breathe which are both essential to maintaining survival.
Page 24	As we've read about different animals, we've seen that animals use their noses in many different ways in order to survive. The hammerhead shark has a unique nose. What is the only job of the hammerhead shark's nose?	The only job of the hammerhead shark's nose is to smell. The shark's nose has a strong sense of smell which allows him to smell blood from wounded prey from far away. Because the shark has a

	How does the hammerhead shark's nose help it to continue to exist?	nostril on each side, it can tell if a scent is stronger to the right or left and track down food quickly. The shark's nose helps it find food which is part of survival.
After Reading	Why are animal noses important to an animal's survival?	Animals use their noses for many different reasons. Some animals use their noses to complete tasks, like the warthog that sniffs out its food such as underground roots and bulbs that it likes to eat. It also uses its nose to dig into soil and lift the dirt out just like a shovel. Other animals use their noses to receive information to make a behavioral response. Animals smell their food and the potential for danger. They must use their nose to support their survival.

HOW TO BE AN ELEPHANT – READING 3, QUESTION SEQUENCE 3, DAILY TASK 7

TEXT

Text: *How to be an Elephant* By Katherine Roy

Question Sequence: Third Read

Instructional Strategy: Interactive Read Aloud

**Teacher Note: Reread page 12 which is focused on the elephant's smell-o-vision.*

DESIRED UNDERSTANDING(S) FOR THIS READING

Strong structures within an elephant compensate for weak structures within an elephant.

(Teacher Note: You may also want to revisit page 16 of What If You Had an Animal Nose to link the star-nosed mole's weak eyesight in with this desired understanding).

Internal structures that receive information send messages to the brain that prompt survival behavior.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- signals (implicit)
- decoded (embedded)
- interpreted (embedded)
- committed (embedded)
- perceptive (explicit)

DAILY TASK

Imagine the author of the *What If You Had Animal Eyes*, Sandra Markle, asked for your help in adding a page that would conclude her text, informing readers how animals use their eyes to continue to exist. Consider the different functions of animal eyes. Use your knowledge about how animals use their eyes from the two texts we've read: *How to Be an Elephant* and *What If You Had Animal Eyes?*

Be sure to do the following when writing:

- Introduce a topic;
- Group related information together including illustrations when needed;
- Develop the topic with facts, definitions, and details;
- Provide a conclusion;
- Use linking words and phrases to connect ideas;
- Use precise language (e.g., signals, decoded, shift, lenses, pupils, retina, expand, etc.);
- Include one example of an animal with strong eyesight and one example of an animal with weak eyesight;
- Explain what they do to compensate for weak eyesight; and
- Provide illustrations, captions, charts and graphs, and/or diagrams to enhance your writing.

**Teacher Note: This task allows students to prepare for the end-of-unit task by determining text features and visuals to support readers. Student can use the template provided below to guide their written response. The template provides text boxes for the written components and boxes for text features.*

EXEMPLAR STUDENT RESPONSE

Message Received

Strong Eyesight Many animals have heightened eyesight that allows them to see with precision. The golden eagle is one example of an animal with strong eyesight. He can also transition from focusing on something far away to something that is close. His eyesight is one of his strengths. With this strength he can spot his prey with ease and swoop in for the kill.	(Picture of golden eagle) **With laser-sharp eyesight, the golden eagle can see significantly better than humans.**
(Picture of star-nosed mole) **A star-nosed mole is nearly blind, which means it has extremely weak eyesight.**	**Weak Eyesight** Having weak eyesight could potentially place an animal in harm's way, so using another structure's strength is critical. The star-nosed mole is almost completely blind, and he lives in the dark underground. To compensate for his poor vision, he uses the fleshy rays on his nose to feel his way around and find food.
How do animals receive information through their eyes? Why is this important? ➔ Pupils have specialized ways to adjust to light to see in the dark and hunt their prey or avoid their predators. ➔ Some animals (bullfrog, shark, etc.) have specific eye placement to allow for a wide range of	(Provide examples here)

vision. ➔ Animal eyes vary in size. Some animals have large eyes to compensate for their lack of visual mobility.	

How does animals' eyesight support certain behaviors and impact their survival? Provide specific examples from our texts and explain them.

Eyes are a structure that allow animals to track down prey, spot predators, keep clean and remain shielded from their environment, and even eat! Animal eyes play a vital role in their ability to survive. Without the use of their eyes, animals are forced to use other structures to survive, like their noses. Otherwise, they may not survive.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Page 12	We've spent some time discussing the important purposes of animal noses. Now, we will focus our attention on the many purposes of animal eyes. Why does the elephant need to see with its nose? What does the author mean by the elephant "sees" the world by following her nose? Teacher Think Aloud: I heard you all say that the elephant has poor vision, so its nose helps it be familiar with its surroundings and environment. I know that when an animal, or living thing, has a weak structure like their eyes, they must compensate for that weakness. That means they must make up for their weakness by having a different strength. So, the elephant makes up, or compensates, for their poor eyesight by having a great sense of smell that communicates with its brain. Let's keep reading to see how the elephant uses smell to communicate with its brain.	An elephant needs to see with its nose because it has poor eyesight. The author means that because the elephant has poor vision, and it must use its nose to smell the surroundings, which allows it to be aware of what's close by in the environment.

Page 12	What does the text mean by, "signals are decoded into data that can be interpreted..."? Why would it be important that an elephant commit the smells and information to memory? How would this memory help her survive in her environment? **Teacher Note: This may be an appropriate time for peer-to-peer discussion.*	The text is telling us that signals, or messages, are sent to the elephant's brain. Those messages are broken down so the elephant can understand the important information. To survive, animals sometimes must make quick decisions. Once the elephant commits the smell and related information to memory, she can quickly behave or respond to support survival.
Page 12	What does perceptive mean? How does having one of the most perceptive noses on Earth support an elephant's survival? **Teacher Note: This may be an appropriate time for peer-to-peer discussion. Consider using an A/B partner talk structure. One student should contribute an answer and the other partner should use accountable talk to provide feedback or additional thinking.*	Perceptive means that the elephant's nose can understand or notice something quickly and easily. By having one of the most perceptive noses on Earth, an elephant can see what's around it. The elephant can learn who its family members are, how to locate food and water, stay away from danger, and find a mate. These lessons will help the elephant survive.
After reading	What might happen if the elephant had not adapted to be able to do these things over time?	If the elephant hadn't adapted by using its nose to compensate for its poor vision, the elephant wouldn't have been able to interact with its environment or family. It would also be at risk during dangerous situations with predators. These adaptations the elephant has made over time are important to the elephant's survival.

RESOURCES FOR DAILY TASK

Message Received

Strong Eyesight	
	Weak Eyesight
How do animals receive information through their eyes? Why is this important?	
How does animals' eyesight support certain behaviors and impact their survival? Provide specific examples from our texts and explain them.	

WHAT IF YOU HAD ANIMAL EYES? – READING 1, QUESTION SEQUENCE 1

TEXT
Text: *What if You Had Animal Eyes?* By Sandra Markle **Question Sequence:** First Read **Instructional Strategy:** Shared Read

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
710L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. The text follows a predictable pattern on each page. The text presents information, a fact, and a fun human connection on each page. The text features included in this text enhance the reader's understanding of the content and are mostly supplementary. For example, most pages have a secondary picture to illustrate the meaning of the text at the bottom of the page. This solidifies understanding for students and is an accessible text feature once students know how to use the text.	The language features in this text are moderately complex. The conventionality of the text is mostly explicit and easy to understand. The text presents many new animal names and content specific vocabulary. There are also words and phrases that can be used for explicit and embedded vocabulary instruction. Examples of tier 2 words are "twin telescopes", colossal, and horned. There are mostly simple sentences; however, there are sentences that are compound or complex and introduce the use of dashes.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of the text is moderately complex. The purpose of the text is clear that animals have different types of eyes that are used for different and specific purposes. However, there is an implied meaning that animals use their eyes to survive which allows them to continue to exist. These connections more directly implied in the concluding pages of the book when the author connects human eyes to a reader's new learning about animal eyes.	The knowledge demands for this text are very complex. The level of knowledge demand relies on a both practical knowledge and content-specific knowledge. The text includes a mixture of simple and more complicated ideas. However, there are connections across texts and outside ideas presented.

DESIRED UNDERSTANDING(S) FOR THIS READING

Animal eyes are multifaceted. They serve a variety of purposes depending on the species and the environment. Animal eyes impact their behaviors; they help animals complete tasks and/or promote a behavioral response which helps them survive.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- shift (embedded)
- lenses (embedded)
- retina (embedded)
- pupils (embedded)
- expand (implicit)

DAILY TASK

This daily task is the task that students began working on following the Interactive Read Aloud of *How to be an Elephant*. Students will continue working on this task.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Chameleon	We just read about how elephants use their "smell-o-vision" to compensate for their poor eyesight. Some animals have better vision, but must compensate for other things, like a lack of visual mobility. The chameleon must compensate for its eyelids not opening all the way. In what ways does it compensate for this weak structure?	The chameleon compensates for his half-opened eyes by having eyeballs that can see two directions at the same time. This allows them to catch prey even though they can't open their eyes all the way!
Dragonfly Page 8	Think Aloud: We have learned more and more about internal structures of animals. I wonder what function and purpose eyes serve. Is this function different for each species? Is it similar? As I read, I am going to	

	pause and question the function of these eyes and the purpose they serve. I read that the dragonfly has 310,000 lenses. I wonder what function they serve. As I kept reading, I saw that the multiple lenses help the dragonfly see objects quickly. I've read enough to know that an animal's quickness can sometimes mean life or death. This makes me think that the purpose of a dragonfly's multiple lenses is either to gather food or avoid predators.	
Bullfrog Page 12	On this page we see that the bullfrog has eyes that are slightly different from other animals. What is the function of their eyes? What information do they receive? How do they respond to this information? Consider the behaviors of the bullfrog from *Bullfrog at Magnolia Circle*. (Scaffold: ask questions to punctuate the conversation if students are unable to answer all questions in a single conversation. See below.) ***What is the function of their eyes?*** -What purpose do their eyes serve? -What do the animal's eyes allow it to do to survive? ***What information do they receive?*** -What information do they receive to stay away from predators? ***How do they respond to this information?*** -Do they adapt? -What are their reactions when they receive this information? Think - Pair - Share (*Students should be given time to silently and independently consider their answer. Afterwards, students should be paired up with a peer and be provided with time to discuss their thoughts. Finally, the teacher should call on a few pairs of students to share their responses and build upon or*	The function is to help the bullfrog see, but also to help it digest food. To see, the bullfrog receives information and prompts it to go underwater for protection. The bullfrog peeks its eyes above the surface to make sure all predators have gone away. The bullfrog can respond to an upcoming predator without having to expose its body. The eyes also help the bullfrog digest food because the eyes shut and then push down food through openings in the skull. The bullfrog couldn't eat without its eyes!

	respectfully challenge one another's thinking.) How does this adaptation help the frog survive?	
Yellow Mongoose Page 16	Describe a yellow mongoose's eyes based on what we have read in our text. What function do the mongoose's rectangular pupils serve?	A mongoose has rectangular pupils. This specific pupil structure allows mongooses to see predators and escape routes.
Llama Page 21	How have the llamas' eyes changed? Turn and Talk: Why would it be important for the llama's eyes to be able to adapt to sun in the desert region?	Their eyes have adapted to adjust to the hot conditions of the desert region. Llamas have black crystals at the top and bottom of their pupils to help shield them from the hot sun of the desert. Because they live in a desert region, llamas need to be able to protect their eyes from over-exposure to the sun.

RESOURCE FOR SHARED READ

This chart can be used during the shared reading to help capture information that will support students in the daily task they will complete after having read this text and the designated section of *How to be an Elephant*.

Example Interactive Chart:

Information Received	How does the adaptation help the animal survive?
• A chameleon receives information in through eyes that stick out of its head. The eyelids are fused together, which means that the eyes cannot open all the way. Still information is received because the eyes move separately. • A golden eagle receives information up to two miles away. • The bullfrog receives information from its eyes that are placed on top of its head. The bullfrog can hide its body underwater and peak its eyes above the surface.	• The chameleon can respond to information from its unique eyes because it can search for prey in two places at once. • This allows the eagle to catch its prey from far-away distances. • The bullfrog can respond to an upcoming predator without having to expose its body.

EYE TO EYE – READING 1, QUESTION SEQUENCE 1, DAILY TASK 8

TEXT
Text: *Eye to Eye by Steve Jenkins* **Question Sequence:** First **Instructional Strategy:** Interactive Read Aloud **Teacher Note: The question sequence for this text focuses concepts found on the first three pages only. The remainder of the book provides additional examples of how animals use their eyes to survive in their environment. Teachers may choose to use this portion of the text to continue support student understanding of the diversity of eyes and their functions if needed.*

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
1040L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. The organization of the text is clear. It begins with a broader overview and then funnels down to more specific details about specific animals' eyes (how they function and how they support survival). Text features and graphics directly enhance and support understanding of the text. The last pages of the text provide additional information that expands upon information presented throughout the text (e.g., diagrams, labels and graphics describing different eye structures, additional animal facts, a bibliography, and a glossary)	The language features are very complex. A variety of simple, compound, and complex sentence structures are used throughout the text. Several examples of dashes, hyphens, and parentheses are evident as well. An abundant amount of Tier 2 and Tier 3 vocabulary words are used in addition to a couple of examples of figurative language (e.g., bathed it in light) Examples of Tier 2 Vocabulary (diverse, acquired, clusters, discern, resolve, convert, interpret, variations, adrift, detect, perceive, perched, sensitive, lurk, field of vision, migrate, keen, swivel, sweep) Examples of Tier 3 Vocabulary (arthropods, facets, retina, photoreceptors, pupil, iris, lens, radiant heat, infrared radiation, ultraviolet light, depth perception)
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of the text is moderately complex. The structure and function of the eye is very different across animal species. The eye and how animals use it	The knowledge demands for this text are very complex. There are assumptions with this text that students have some prior knowledge about including: predator/prey relationships;

is unique to different animals. The text provides several specific examples as well as larger categories of types of eyes. Another layer of the meaning and purpose of the text is subtle. The idea that animals that do not adapt can become extinct is more abstract.	various needs of animals to survive in their environment; light and its connection to sight; and evolutionary changes over time. The text does provide some explanations, text features, and graphics that can serve to bridge gaps, but not always. There is a reliance of discipline-specific vocabulary (e.g., predator, prey, pupil, iris, retina, lens, ultraviolet light, depth perception) and ideas that will be both recognizable as well as challenging abstract concepts (e.g., evolution of the eye and that animals were blind for more than 600 million years; the level of diversity within the structure of eyes and how animals are able to use them in such diverse ways).

DESIRED UNDERSTANDING(S) FOR THIS READING

Most animals rely on their vision more than any other sense. Eyes help them find food, avoid predators, communicate, and locate a mate. Over time, animals' eyes have changed to help them survive.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- diverse (embedded)
- acquired (explicit)
- advantage (implicit)

The following words will be reinforced (they were previously introduced in earlier texts/readings) in this reading:

- interpret
- adapt
- perceive

DAILY TASK

Use your knowledge about the three texts we have read about eyes (*How to be an Elephant*, *What Do You Do with Animal Eyes*, and *Eye to Eye*) to write an informative paragraph describing how eyes and the ways of "seeing" have become more and more diverse and how that might affect the survival of a species.

Your writing should:

- Introduce your topic;
- Develop the topic with facts, definitions, and details;

- Use linking words and phrases to connect ideas;
- Use precise language from the vocabulary you studied while learning about animal adaptations; and
- Provide a conclusion to provide closure for your readers.

EXEMPLAR STUDENT RESPONSE

Many animals depend on their vision more than any other sense. They use their vision in many ways to survive in their environment. Some animals such as the golden eagle rely on their vision to spot their prey from far away distances. Other animals have poor vision and must compensate by using other senses to have a link to the world.

For many years, all animals were blind. Eventually some animals began to change and acquire the ability to see. This gave them an advantage over those that could not see by allowing them to know when predators were near and move to safety. Over time, animal eyes continued to change. Species that did not adapt to develop eyesight were less likely to continue to exist. Now, animals' eyes and the way they use them are very diverse. Even though they are diverse, they all use their eyes and vision to help them survive in their environment.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
...link to the world.	What does the author mean when he or she says. "the eyes are the most important link to the world" for many animals? What are some of the animals we have already learned about that rely on their vision more than any other sense? What about some animals that have poor eyesight? How do they compensate? Why is it important that they do compensate?	The author is stressing that most animals rely heavily on their vision to understand what is going on in the world around them. *(Note: student responses will vary and could reference multiple animals from previous readings such as the chameleon. E.g.; Each of the chameleon's eyes moves in different directions, so it can look out for prey.)*
Caption P.1	Based on what we learned from the caption, how does the Amazon parrot's adaptation help it survive? What challenges might it face if it didn't have this adaptation?	Because it can see colors so well, it is able to find the fruit and flowers it eats. If it did not have this adaptation, it would have a harder time finding food and could possibly starve.

Caption P.1	What benefit does the jumping stick insect's ability to see in many directions have?	Because it can see in many directions at once, it can take in more information at once. This could help it locate predators, find food or even a mate more quickly.
	What is unique about how this eye is designed that allows it to have this adaptation and use it to survive?	Its eye is protruding, or sticking out. This is the reason it can see in many directions.
P.2	Reread the sentence: "But for more than three billion years, all living things were blind." Let's stop and consider how long three billion years is.	(This response will depend on the students and their prior knowledge at this point. The teacher may make connections to other text read or concepts discussed so far to address the magnitude of this large number. One example might be if students have engaged in lessons about the solar system and the large distances between planets or the size of the planets or the sun.) One example of how this conversation might start could be, "Think about how old you are. Most of you are eight or nine. This means the earth has traveled around the sun eight or nine times since you were born. I am __ years old. The earth has traveled around the sun ____ times. When we say 3 billion years, all living things were blind. That means that the earth traveled around the sun 3 billion times before animals even began to develop the ability to see anything."
	What do we know about animals that lived a long time ago?	They were all blind for a very long time.
	If they were blind, how were they able to know what was going on around them?	They had to rely on what they could touch, taste, and feel.
	How might this affect their ability to survive?	(Students might make an immediate connection to a prey escaping from a predator.) E.g., They might be more likely to be eaten by a predator if they don't see them. It

	If all animals were blind, would predators be able to see their prey?	would be harder for them to find food. No. Predators would also have a harder time catching and eating their prey if they were not able to see.
...acquired an important new ability.	What does the author mean by "acquired an important new ability"? What had to happen for these animals to acquire this new ability? What is this called?	After being blind for billions of years, some animals eventually began to develop vision. Animals' structures and behaviors had to change to survive in their environment or in new conditions. adaptations
.... gave these animals a big advantage.	Based on what you have learned so far in this unit, describe what might be some of the advantages animals who adapted to be able to see first experienced.	(Let students answer this question prior to reading the next line.) Animals that began to see could detect shadows of predators and move to avoid getting eaten, while those that could not see were more likely to be eaten.
...more likely to be eaten...	Turn and talk: If a species of animal did not adapt to develop vision, what was a likely fate for that species and why?	A species of animal that was not able to use vision to defend itself from a predator would be easier prey. The predator would be more likely to eat the easier prey. Gradually, more of that prey would be eaten than those that could move away and avoid getting eaten. This could eventually lead to that species going extinct.
Read captions beneath four pictures at the bottom of P. 2-3	Which of these eyes are the simplest? What are animals able to do and not do that have this type of eye? How might this help them survive?	The eyespot is the simplest. They can see light but are not able to form images. They can detect shadows of their predators and move away to avoid being eaten.

Read captions beneath four pictures at the bottom of P. 2-3	How are pinhole eyes different from eyespots? How might this be more helpful? How are these types of eyes different from compound or camera eyes?	Pinhole eyes can form images, and eyespots are not. The more details an animal can gain from what it sees the better. Since it can see images, it might be able to determine threatening animals from those that are not. Even though they can all form images, pinhole eyes do not let in as much light and the images are dimmer than images created by the compound or camera eye.
Read captions beneath four pictures at the bottom of P. 2-3	Which type of eye did the first animals that began to see develop? Thinking about these four designs, which is the most complex? Turn and Talk: How do you think this process of changing as animals adapt to survive in their environment happens? Why do you think this?	Eyespot Camera. Animals were blind for three billion years before they even began to see. When they did, they were still only able to see light and shadows which is the simplest way to see. The text says eyes continued to change and become more and more complex.
P.1	Back on the previous page, the author says "...and they have developed extraordinarily diverse eyes and ways of using them." Think about this statement and all that you have learned so far about animal eyes and other structures while you consider the following question with your partner. Turn and talk: How did this process of adapting impact species today? Make sure to discuss those that are here today and those that no longer exist.	We have learned about how diverse animals' eyes are and all the different ways animals use their eyes to survive. This did not happen quickly. Each animal we learned about uses this internal structure in very different ways. Species that did not adapt were less likely to survive.

NEIGHBORHOOD SHARKS – READING 1, QUESTION SEQUENCE 1, DAILY TASK 9

TEXT
Text: *Neighborhood Sharks* By Katherine Roy **Question Sequence:** First Read **Instructional Strategy:** Interactive Read Aloud

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
1330L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. The organization of this text makes connections between the big ideas of the text. The subtle connections between various internal and external structures are connected through the narrative story structure with an emphasis on the elephant seal. Text features are used to enhance the reader's understanding. For example, the projectile nature of the shark's jaw is explained both narratively but also through a text feature, providing specific illustrations of the body structures and adaptations. The use of graphics, side notes, and animal structure diagrams allow for deeper thinking and explicit connections with the narrative text on the page.	The language features are very complex. The language features in this text are very complex because of the variety of abstract, ironic, and figurative language used to describe the shark and its interactions with other aquatic animals. The vocabulary is varied across the text and allows for explicit and embedded instruction of both tier 2 and 3 words. Examples of tier 2 words are proximity, intimidating, leverage, projected, and distinctive. Examples of tier 3 words are pinniped, "apex predator," "binocular vision", dorsal fin, dorsal aorta, and blubber. While there is an enormous amount of potential vocabulary for instruction, teachers must choose strategically which words best support the desired understandings for this read.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of the text is moderately complex. The purpose of this text is implied but easy to identify based on the context provided in the narrative text at the top of the page. Because the purpose of the story is communicated through a narrative and through the connections of the shark hunting its prey, the elephant seal, at certain times of the year, students will be able to make the connection that the purpose of this text is	The knowledge demands for this text are very complex. The subject matter of the text relies on moderate levels of discipline-specific knowledge, such as the shark's unique anatomy, which makes it suitable to hunt other aquatic animals. Even so, the text includes a mix of recognizable ideas such as the "apex predator." Students generally recognize that sharks hunt based on their sharp teeth and the way they are portrayed through scientific images. However, the

to understand the ironic phrase "neighborhood" shark. While neighborhood shark has a positive connotation, students will easily connect that sharks use the proximity of the seals to feed during a certain time of the year. Students will use the text features and new learning about a shark's body structure to uncover why this meaning is ironic and how a shark's behaviors impact survival of many aquatic animals.	challenging concepts such as binocular vision will push students to understand that a shark's rank on the food chain is not simply because of its sharp teeth, etc. This text provides some connections to other texts. *How to be an Elephant* will be a natural connection give the authors are the same and the craft and structure is complementary. Also, the text will connect with Sandra Markle's text given the specific descriptions of both internal and external animal structures.

DESIRED UNDERSTANDING(S) FOR THIS READING

White sharks use their internal and external structures to thrive in their environmental region.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- apex predator (explicit)
- pinniped (embedded)
- thriving (explicit)
- dorsal fin (embedded)
- stability (embedded)
- warm-blooded (embedded)
- visual predators (embedded)
- razor-sharp (implicit)
- projectile (implicit)
- patrolling (implicit)

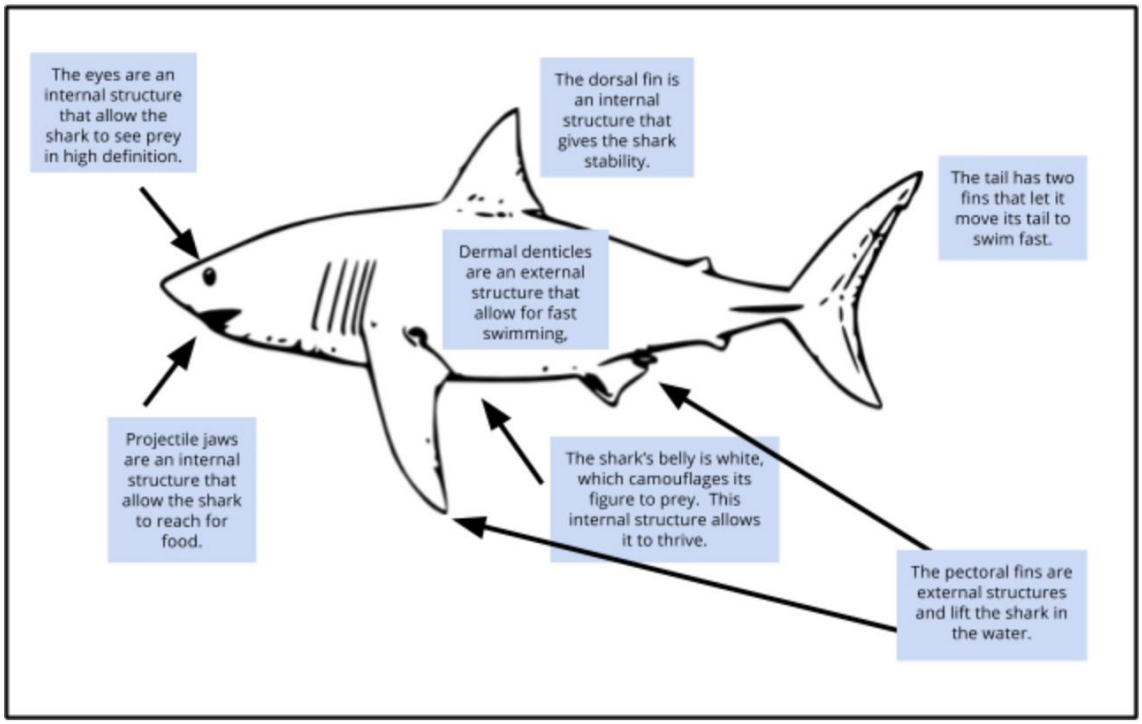
DAILY TASK

Optional Collaborative Task: But Why? (Rozlyn Linder *The Big Book of Details*)

In this chart, students will be asked to expound upon their thinking by responding to a statement (at the top of the chart) with a simultaneous explanation of "why?". Students will describe the structure on a sticky note and place it near the structure on the chart. Teacher and student might need to draw arrows to identify certain structures. Then as a class, the teacher will ask students to explain why this structure allows the white shark to thrive. These examples can be recorded at the bottom of the chart in the appropriate columns.

**Teacher note: This activity can be completed during the reading. If completed during the reading, students will pause during discussion to describe an internal or external structure of the white shark that allows the animal to thrive and explain why this structure allows it to thrive. If completed after the reading, consider what pages may need to be revisited*

in order to gather enough information to meet the desired understanding. This resource can be carried over into students writing during the independent task.

White sharks thrive because of the use of their internal and external structures. **But why?**
Example of completed collaborative task:    Shark image from www.google.com

Thriving External Structures	Thriving Internal Structures
• The dorsal fin provides stability which allows the shark to swim quickly after hovering in place, waiting for its prey. • The shark's tail has two fins that allow it to move efficiently in the water and charge towards its dinner.	• The shark's belly is a camouflage, making it difficult to see from a distance and perfect for hunting tasty elephant seals. • The shark's eyes see in high definition. Their vision allows them to thrive because sharks can spot a meal from far away.

Independent Task:
Write an informational text answering: How do white sharks use their internal and external structures to thrive in their environment?

Your writing should:

- Introduce your topic;
- Develop the topic with facts, definitions, and details;
- Use linking words and phrases to connect ideas;
- Use precise language from the vocabulary you studied while learning about animal adaptations; and
- Provide a conclusion to provide closure for your readers.

EXEMPLAR STUDENT RESPONSE

White sharks use their internal and external structures to thrive as an apex predator in their environment. An apex predator is an animal at the top of environmental region's food chain. This means that they are predators of their region and typically not an object of prey.

Sharks thrive in this region for many reasons. They have external structures, such as their torpedo-shaped body, that allow them to glide in the ocean waters before striking their tasty prey. Another external structure that helps them thrive is the white shark's tail. The dual-finned appendage allows the shark to swiftly reach its prey, like the Farallon Island elephant seals. These external structures have adapted over time to support a white shark's need to efficiently snatch its favorite meal.

Additionally, sharks also thrive with the use of certain structures, such as their eyes and projectile jaws. Sharks are visual predators. This means that their eyes have a keen sense that allows them to see their prey in high definition, even at far distances. This adaptation allows sharks to thrive by attacking their prey with little time to escape. White sharks have projectile jaws which also support their rank in the oceanic environment. Their jaws move systematically to clench their prey while projecting its mouth forward, another adaptation that makes it difficult for vulnerable elephant seals to escape.

In conclusion, white shark's external and internal structures allow them to thrive because their use and function is targeted towards achieving their sole purpose, finding prey. Because they are apex predators, they are uniquely adapted to hunt and attack their prey to survive.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Hot Lunch Page 12	Today we are discussing how apex predators thrive in their environmental region. On this page elephant seals are described as a "perfect energy bar for a hungry white shark." Why is this? (Scaffold: Use the illustration at the bottom of that page to inform your answer.) Turn and Talk:	Elephant seals are a "perfect energy bar" because they are full of fat, or blubber, and they swim slowly in the water because they are large animals. This makes it easy for a predator to attack. Therefore, these seals are full of nutrients and easy to obtain which makes them the "perfect energy bar."

	What animals are present in the Farallon Islands during the fall, and why might the sharks be there as well?	The white sharks thrive around the Farallon Islands in the fall because there is large population of seals that moved into the nearby waters. The seal's blubber provides a lot of energy the shark needs in its food.
The Perfect Body Page 13	After reading this page, what are some external structures that allow the white shark to thrive in its environment? (Think - Pair - Share) Follow up questions: How does this structure allow it to thrive? How do these structures work together to support survival? Using what you know about dermal denticles, explain why they would help sharks glide through the water.	Dorsal Fin- The dorsal fin allows the shark to swim with stability and the pectoral fins help the shark glide quickly in water. Tail- The tail of a white shark has two fins which bring more power and movement when the shark swings its tail toward a swimming target of prey. Torpedo-shaped body/ dermal denticles- The overall shape of the body is a structure that makes the shark a perfect predator because its body is made to glide through the water while on a hunt.
The Perfect Body Page 13	Turn and Talk: How does the shark's skin tone help it thrive?	The shark has skin tones that help it blend into the shades of the ocean. When the shark is seen from below, its "ghostly" color helps camouflage it. If something is below a shark, it can't see the shark because the light underside color blends in with the light at the surface of the water. If something is above the shark, it can't see the shark because its dark upper body blends in with the dark colors of the reef. Being able to camouflage itself allows the white shark to quickly attack its prey.
Hot Head Page 15	How does the white shark's bloodstream, or internal structure, allow it to thrive, despite the cold temperatures of the ocean?	The shark's dorsal aorta is relatively small compared to other fish. Because of the size of the dorsal aorta and other gills that carry blood, the shark's body promotes a heat exchange that keeps the shark's temperature on the rise. This is important because sharks need to stay warm in the water as they wait to attack their prey. Sharks need to be able to stay warm for long periods of time before they attack. Their warm blood stream helps them survive.

High-Definition Vision Page 17	The author says that white sharks are visual predators. What does this mean and how does their vision allow them to thrive? What protects this ability? What might happen if this shark did not have this adaptation? What are other examples that are similar to this? (Scaffold: What parts of a shark's vision allow them to thrive?) (Think-Pair-Share)	Sharks are visual predators, which means they are able target their prey by sight. Sharks have eyes can see in high-definition because of their two types of photoreceptors. Their snout allows binocular vision, which helps them judge distances before they strike. Just before they attack, their eyes roll back in their head. This adaptation protects their most precious weapon, their eyes. This allows them to thrive because they can spot a meal from far off and attack (****)
Endless Teeth Page 19	What adaptation have sharks developed over time that assures sharks are "always ready to dine with a razor-sharp smile"?	Sharks' teeth adapt because each time they lose a tooth, another tooth quickly grows and replaces it. This allows them to be apex predators because their sharpest weapon continually grows- they never run out of razor sharp teeth!
Projectile Jaws Page 21	How do a shark's jaws make it perfect for feasting on elephant seals? What adaptations have sharks developed that allow them to attack quickly?	The shark's jaws have adapted. They are not attached to its skull and can project to gulp it food, while pinning down the prey so that it cannot move. Sharks also cannot chew their food, so they simply must bite and swallow. This would make it hard to get away.

ANIMALS THAT MAKE ME SAY WOW! – READING 4, QUESTION SEQUENCE 4, DAILY TASK 10

TEXT

Text: *Animals That Make Me Say Wow!* By Dawn Cusick

Question Sequence: Fourth Read

Instructional Strategy: Shared Read Pages 32-51

DESIRED UNDERSTANDING(S) FOR THIS READING

Certain behaviors promote a survival instinct, such as foraging. Animal structures and senses promote behaviors that protect them, feed them, communicate with other animals, and lead to survival.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- foraging (embedded)
- instincts (embedded)
- carnivores (embedded)
- herbivores (embedded)

DAILY TASK

*Teacher Note: This is a joint task that should be completed after reading both *How Do Animals Adapt?* and *Neighborhood Sharks*. The details of the task will be included in the lesson for *Neighborhood Sharks*.

DAILY TASK

Directions: To synthesize your learning, use this graphic organizer below.

- Take time to jot down connections you have made between the *Neighborhood Sharks and Animals That Make Me Saw Wow!*
- Take another moment to extend your thinking. Connect your learning from *How to Be an Elephant, Neighborhood Sharks, and Animals That Make Me Saw Wow!* Use the question in the box.
- Before writing your independent task, consider how information gained from *Neighborhood Sharks, How to be an Elephant, Animal Senses, and Animals That Make Me Saw Wow!* has challenged your thinking about animal structures, their behaviors, and their ability to survive.

- After this time of reflection, answer each of the questions below in a cohesive informational text using thoughts from each section of your graphic organizer.

In your paragraph, be sure to:

- introduce your topic;
- develop the topic with facts, definitions, and details;
- use precise language from the vocabulary you studied while learning about animal adaptations; and
- provide a conclusion to provide closure for your readers.

CONNECT	EXTEND	CHALLENGE
How are the ideas and information about animals' senses, structures and behaviors connected to what you already knew? **Consider the following texts:** *Neighborhood Sharks* *Animals That Make Me Saw* *Wow!*	What new ideas did you get that extended your thinking about animals' senses, structures and behaviors that lead to survival? **Consider the following texts:** *Neighborhood Sharks* *How to be an Elephant* *Animal Senses*	What challenges have you considered about animals' internal and external structures, their behaviors, and their ability to survive? **Consider the following texts:** *Neighborhood Sharks* *How to be an Elephant* *Animal Senses* *Animals That Make Me Saw Wow!*

CONNECT - EXTEND - CHALLENGE

EXEMPLAR STUDENT RESPONSE
See the completed chart below.

CONNECT	EXTEND	CHALLENGE
How are the ideas and information about animals' senses, structures and behaviors connected to what you already knew? **Consider the following texts:** *Neighborhood Sharks* *Animals That Make Me Saw Wow!*	What new ideas did you get that extended your thinking about animals' senses, structures and behaviors that lead to survival? **Consider the following texts:** *Neighborhood Sharks* *Animals That Make Me Saw Wow!* *How to be an Elephant*	What challenges have you considered about animals' internal and external structures, their behaviors, and their ability to survive? **Consider the following texts:** *Neighborhood Sharks* *How to be an Elephant* *Animal Senses* *Animals That Make Me Saw Wow!*
• Animals forage to feed their young and to survive themselves. • Some animals, like white sharks, require a lot of food. • Some animals, like white sharks, are apex predators and easily get their food with their foraging behaviors. • Apex predators have a dominant behavior, hunting, which requires specialized use of many body structures.	• Elephants pass down knowledge and behaviors from generation to generation. This makes me connect what I know about rabbits and orangutans, which spend most of their time looking for food. This may also be a behavior that is passed down from generation to generation. • Elephants eat and live in herds to protect themselves. This is like pelicans who hunt together in a horseshoe shape to herd fish into smaller feeding areas. • Elephants, pelicans, and other herding species would be a tough competitor for a shark that preys on lonely swimmers in the ocean.	• Animals must use their structures and senses to survive. • Their behaviors are directly impacted by the way their structures and senses interact with their surroundings. • The white shark may not be an apex predator forever if animals, like the elephant seals, catch onto to certain behaviors, such as herding. This would mean that seals travel in closer packs and wouldn't be an easy target of prey. • Sharks may struggle to find enough food if they do not use their structures, their high-definition vision, jaws, etc., to migrate and follow food trails.

CONNECT - EXTEND - CHALLENGE
Animal structures impact the way animals behave and survive. Foraging is a behavior many animals experience to survive. Foraging requires the use of many animal structures and senses. Animals forage to feed their young and to survive themselves. Some animals, like white sharks, require a lot of food. Animals that remain at the top of the food chain are called apex predators. Apex predators easily get their food with their foraging behaviors. Apex predators have a dominant behavior, hunting, which requires specialized use of many body structures. The white shark uses it high definition vision to spot food from far distances. They also travel in migratory patterns to hunt food that is easy to find. Elephants, like the ones we read about in *How to Be an Elephant*, follow patterns, as well. Such a pattern can be explained in the way that elephants pass down knowledge from generation to generation. This knowledge is passed down through communicating with animals and living in herds. Information that is communicated requires special use of different structures and senses. After reading the chapter about foraging in *Animals That Make Me Say Wow!* and portions of *Neighborhood Sharks*, I wonder how certain animal behaviors are directly impacted by the way animal structures and senses interact with their surroundings. What if the white shark ran into "herds" of elephant seals? The white shark may not be an apex predator forever if animals, like the elephant seals, catch onto to certain behaviors, such as herding. This would mean that seals travel in closer packs and wouldn't be an easy target of prey. We don't have all the answers about how sharks will change when new animal behaviors impact their surroundings. However, we do know that animal structures impact behaviors which determine if an animal will continue to survive.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Page 33	What are instincts? How do instincts and body adaptations help animals forage?	Instincts are learned behaviors. Instincts and body adaptations help animals find food, or forage. They need food to survive.
Page 34	How do brown bears' external structures support their survival? Use specific details we read about together in our text. Also, use the illustration to support your answer.	Brown bears have large, flat surfaces on their paws. They use these to strike fish in rivers. This is necessary for them to get food to survive. They also can swim underwater to catch fish that swim close by. In the illustration, it also shows that brown bears have long, sharp claws. This would help with catching slippery prey like fish.
Page 36	Turn and talk: Describe some of the external structures felines have and *how* those support specific behaviors or survival. Use specific evidence from our text.	Leopards have incredibly strong legs that enable them to leap more than 20 feet in just one jump. This helps them catch prey from farther away. They also have whiskers that help them differentiate between living or dead prey.

Page 38	How are herbivores and carnivores different? How would that impact the internal structures that herbivores must have? How would it impact herbivores' behaviors?	Herbivores consume plants while carnivores consume mostly meat. Plants are more difficult to digest because the cell walls are made of cellulose. Plants also contain less energy. This means herbivores must be able to digest plants, so they could have different internal structures. Their behaviors would also be impacted because they would need to consume more plants and likely forage for longer periods of time.
Page 40-41	How are nectar bats and hummingbirds' external structures different? Why?	Nectar bats have tube-like tongues, so they can suck the nectar from deep inside flowers. Their tongue is really long, so it doesn't fit inside its mouth. It rests on its ribcage. Hummingbirds have beaks to protect their tongues, so they can feed on nectar that most other animals cannot reach. Their tongues are also extremely long, but they rest in a hollow place in their skulls instead of on their ribcages like the nectar bat.

NEIGHBORHOOD SHARKS – READING 2, QUESTION SEQUENCE 2, DAILY TASK 11

TEXT

Text: *Neighborhood Sharks* By Katherine Roy

Question Sequence: Second Read

Instructional Strategy: Interactive Read Aloud

DESIRED UNDERSTANDING(S) FOR THIS READING

White sharks have changed to have specific structures that help them survive as a species.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- efficient (explicit)
- migratory animals (explicit)
- disproportionate impact (explicit)
- vulnerable (explicit)

The following words will be reinforced (they were previously introduced in earlier texts/readings) in this reading:

- apex predator
- pinniped
- thriving
- dorsal fin
- stability
- warm-blooded
- visual predator
- razor-sharp
- projectile
- patrolling

DAILY TASK

*Teacher Note: This is a joint task that should be completed after reading both *How Do Animals Adapt?* and *Neighborhood Sharks.* The details of the task will be included in the lesson for *Neighborhood Sharks.*

DAILY TASK
Directions: To synthesize your learning, use this graphic organizer below. ● Take time to jot down connections you have made between the *Neighborhood Sharks and Animals That Make Me Saw Wow!* ● Take another moment to extend your thinking. Connect your learning from *How to Be an Elephant, Neighborhood Sharks, and Animals That Make Me Saw Wow!* Use the question in the box. ● Before writing your independent task, consider how information gained from *Neighborhood Sharks, How to be an Elephant, Animal Senses, and Animals That Make Me Saw Wow!* has challenged your thinking about animal structures, their behaviors, and their ability to survive. ● After this time of reflection, answer each of the questions below in a cohesive informational text using thoughts from each section of your graphic organizer. **In your paragraph, be sure to:** ● Introduce your topic; ● Develop the topic with facts, definitions, and details; ● Use precise language from the vocabulary you studied while learning about animal adaptations; and ● Provide a conclusion to provide closure for your readers.

CONNECT	EXTEND	CHALLENGE
How are the ideas and information about animals' senses, structures and behaviors connected to what you already knew? **Consider the following texts:** *Neighborhood Sharks* *Animals That Make Me Saw Wow!*	What new ideas did you get that extended your thinking about animals' senses, structures and behaviors that lead to survival? **Consider the following texts:** *Neighborhood Sharks* *How to be an Elephant* *Animal Senses*	What challenges have you considered about animals' internal and external structures, their behaviors, and their ability to survive? **Consider the following texts:** *Neighborhood Sharks* *How to be an Elephant* *Animal Senses* *Animals That Make Me Saw Wow!*

CONNECT - EXTEND - CHALLENGE

EXEMPLAR STUDENT RESPONSE

DAILY TASK
Directions: To synthesize your learning, use this graphic organizer below. • Take time to jot down connections you have made between the *Neighborhood Sharks and Animals That Make Me Saw Wow!* • Take another moment to extend your thinking. Connect your learning from *How to Be an Elephant, Neighborhood Sharks, and Animals That Make Me Saw Wow!* Use the question in the box. • Before writing your independent task, consider how information gained from *Neighborhood Sharks, How to be an Elephant, Animal Senses, and Animals That Make Me Saw Wow!* has challenged your thinking about animal structures, their behaviors, and their ability to survive. • After this time of reflection, answer each of the questions below in a cohesive informational text using thoughts from each section of your graphic organizer. **In your paragraph, be sure to:** • Introduce your topic; • Develop the topic with facts, definitions, and details; • Use precise language from the vocabulary you studied while learning about animal adaptations; and • Provide a conclusion to provide closure for your readers.

CONNECT	EXTEND	CHALLENGE
How are the ideas and information about animals' senses, structures and behaviors connected to what you already knew? **Consider the following texts:** *Neighborhood Sharks*	What new ideas did you get that extended your thinking about animals' senses, structures and behaviors that lead to survival? **Consider the following texts:**	What challenges have you considered about animals' internal and external structures, their behaviors, and their ability to survive? **Consider the following texts:**

Animals That Make Me Saw Wow!	*Neighborhood Sharks* *How to be an Elephant* *Animal Senses*	*Neighborhood Sharks* *How to be an Elephant* *Animal Senses* *Animals That Make Me Saw Wow!*
• Adaptations are connected to animals' behaviors. • Animals must adapt and use their structures to survive.	• Sharks internal and external structures have adapted to help them survive, despite being an apex predator in the ocean. • Sharks are still vulnerable to other species. • Elephants pass their knowledge to other generations. This could be similar to sharks and their offspring.	• An animal's ability to survive is not completely dependent on their ability to adapt. Sometimes their survival is dependent on the knowledge that is adapted from generation to generation, like the savanna elephants. • Some adaptations support basic survival needs such as shelter, protection, and an ability to adjust their bodies to their surroundings.
CONNECT - EXTEND - CHALLENGE		
We have learned that animals adapt and have specific internal and external structures that promote certain behaviors and help them survive. Animals may adapt to their surroundings or even change some of their behaviors and body structures. Sharks internal and external structures have adapted to survive, despite being an apex predator in the ocean. Sharks still are vulnerable to other species. This means that as other species change, sharks must adapt to hunt the food that is needed to survive. However, an animal's ability to survive is not completely dependent on their ability to adapt. Some animals, like the savanna elephant, pass survival information from generation to generation. In conclusion, animals have specific internal and external structures that drive their behaviors and help them survive in their environments.		

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Hot Lunch Page 12	This page describes migratory animals. Using what you know about migration, explain what might happen to the great white shark species if they had not adapted this migration pattern. Think - Pair - Share	If the white shark had not developed this adaptation, it might not be able to get enough food. If sharks can't get enough food to survive into adulthood, they won't be able to reproduce, and the species would die out.

High-Definition Vision Page 17	Think Aloud: We are going to look back at *Neighborhood Sharks* and consider how this species has changed, and how these changes have impacted their behavior. Turn and Talk: How do sharks' eyes support their behaviors and survival? What might happen to the shark species if it had not adapted to have keen eyesight? Support your answer using information from our text.	Sharks eyes support their feeding behaviors and therefore their survival. Their eyes have adapted to the need to be visual predators. Because aquatic animals migrate from season to season, sharks must use their eyesight to judge distances to find a meal. Sharks may go weeks without a meal, which makes their eyesight even more important. If sharks did not have this eyesight, they would have difficulty finding prey and may not survive.
Farallon Soup Page 31	The text says that seals rely on the nutrient-rich waters surrounding the Farallon Islands. If these waters changed in their ability to house many varieties of sea-life, how might white sharks adapt to changing water temperature? What behaviors could change?	If the Farallon Islands are no longer home to many aquatic animals, white sharks may change their migratory patterns. Their behaviors would change because they would not spend so much time in the fall waiting in the waters for elephant seals to appear. They would need to prowl for a new object of prey.
Farallon Soup Page 32	What does disproportionate impact mean in this context?	A disproportionate impact means that even though white sharks largely prey on elephant seals, there are not enough of the apex predators in the area to disturb the food chain or jeopardize survival.
Page 35	Have white sharks or humans been on the earth longer? What specific details did you hear in the text about that? What does that tell you about the shark's ability to adapt?	Sharks have been on the earth longer. In order to live for such a long-time, sharks may have had to adapt. If the shark did not adapt, we would not expect the species to have survived so long.

END-OF-UNIT TASK

Note: The end-of-unit task gives students the opportunity to answer the essential questions for the unit and to demonstrate their understanding of the unit concepts. The end-of-unit task prompts student thinking, speaking, and writing about unit texts that reflects the demands of the grade-level literacy standards. In addition, the end-of-unit task provides students a chance to demonstrate their understanding in an authentic and meaningful context.

END-OF-UNIT TASK

Part I: You are a journalist for the magazine, *Our Plant,* and your assignment is to fly to two different regions to study the differences in animal adaptations in each region, so the public can better understand how animals interact with their environments and how they avoid extinction. Your article will be featured in the "Check Out Our Plant" section of the magazine. Since you are one of the senior journalists, you can select the two regions you will travel to. Your options include:

- desert region
- ocean region
- arctic region
- forest region
- jungle region
- savanna region

As you write your article, be sure to do the following:

- Introduce your topic;
- Develop the topic with facts, definitions, and details;
- Group related information together including illustrations and text features when needed;
- Use linking words and phrases to connect ideas;
- Use precise language from the vocabulary you studied while learning about animal adaptations; and
- Provide a conclusion to provide closure for your readers.

In your article, consider providing the following information to your readers:

What comparisons can you make among animals in the two regions?
How do the internal and external structures of animals promote certain behaviors and impact their survival?
How do their structures allow them to continue to survive in their environment?

**Teacher Note: Students may need to do additional research to expand their regional knowledge. Texts that explore the regions mentioned are included in the unit to support student inquiry and research. You may want to provide a graphic organizer to help students with the pre-writing stage.*

During the writing process, students will go through a peer-review to ensure they have met the criteria for writing. Students will read and review their articles with partners and provide specific feedback that allow the writers the opportunity to improve their writing. Students may use the following question stems during their discussion:

What was your goal for writing?
How do your words support your thinking?
How did you support your facts with details from some of the text we've read?
How did you clearly tell the topic of your writing?

Part II: As a senior journalist, an important part of your work is designing the layout of your article. Determine how to best present your article to the readers of *Our Planet*. As you design the layout of your article, consider the text features and visuals that would be helpful to your readers.

Graphics should include:

- Text sections that include writing and additional information throughout the article
- Relevant pictures or illustrations with accompanying captions
- Headings and/ or subheadings that organize the article

You may also include:

- Tables, diagrams, and charts as needed
- Other sources (websites, articles, and reports) to inform the layout and presentation of your article
- Colors and font that allow your information to visual appealing to the readers

Part III: Your findings will also be featured on a special edition of the *Our Planet* broadcast. Prepare to deliver a 1-2-minute segment that will be televised for TV viewers. During your news segment, highlight the key findings you made while traveling to your two regions. Your purpose is to help the public understand how animals interact and survive in specific environments. As you practice your broadcast, consider what makes TV reporters successful. Be sure to:

- Use appropriate facts and relevant descriptive details to inform your viewers
- Speak clearly and at an appropriate pace, so viewers can understand your article
- Speak in complete sentences to communicate your detailed information

**Teacher Note: Students could use audio or audio-visual media to record their news broadcast to present to the class.*

STUDENT RESPONSE

***Our Planet* magazine article:**

Region by Region: Animal Adaptations and Survival

Animals have external and internal structures that promote certain behaviors and help them to survive in their environments. Different regions, or habitats, require animals to have different structures and behave in certain ways in order to interact with their environments and thrive. Without specific internal and external structures, animals' behaviors would be different and their survival would be impacted.

In the desert region, animals have modified their behavior to find food, store water, and keep cool. Water is hard to come by in the desert, so animals get most of their water from the foods they eat. They must find foods that provide water such as succulent plants and insects. Once they find food and water sources, animals must store as much water as possible in their bodies. Camels are desert animals that store fat in their humps. They break down the fat into water in order to survive. Animals must also use their external or internal structures to survive in the heat of the desert. The desert experiences hot temperatures during the day and cooler temperatures at night. Some desert animals have low body temperatures at night followed by temperatures that rise slowly during the day. This allows them to remain cool during most of the hot day. Other desert animals have external structures that help them in the heat. The desert fox has large ears that allow heat to escape which helps it stay cool. The desert horned viper has eyes with clear eyelids that work like safety goggles in the dusty, desert environment.

Animals living in the arctic region have certain behaviors to interact and survive in their cold environment and find sources of food. Arctic animals have external and internal structures that allow them to remain warm. Several arctic

animals have an internal layer of blubber, or fat, under their skin that insulates their bodies. Other animals living in the arctic have thick coats of fur to shield them from the extremely cold temperatures. Animals living in the arctic must have internal and external structures that allow them to trap heat. The arctic fox has tiny ears to keep more body heat trapped to stay warm. Another way arctic animals behave and survive is through the use of their nose. This internal structure allows them to sniff prey from far away distances. Polar bears can smell prey as far as 16 kilometers. Polar bears also have webbed paws, which allow them to swim quickly through icy waters in search of their prey.

In conclusion, the environment which an animal lives in dictates how they use their internal and external structures. Animals use these structures and behave in different ways in order to impact their survival in these varied environments. Animals' internal and external structures are necessary for their behaviors and survival.

**Teacher Note: Students should strategically design the layout of their article to support reader understanding. This may include text features and visuals such as photographs and captions, graphs and charts, diagrams with labels, etc.*

ADDITIONAL TEXTS TO SUPPORT THE END-OF-UNIT TASK

10 Facts about Polar Bears! by National Geographic Kids
https://www.natgeokids.com/uk/discover/animals/general-animals/polar-bear-facts/#!/register

Scorpion Facts! by National Geographic Kids
https://www.natgeokids.com/uk/discover/animals/general-animals/scorpion-facts/#!/register

10 Giraffe Facts! by National Geographic Kids
https://www.natgeokids.com/uk/discover/animals/general-animals/ten-giraffe-facts/#!/register

10 Facts about Bottlenose Dolphins by National Geographic Kids
https://www.natgeokids.com/uk/discover/animals/sea-life/dolphins/#!/register

https://kids.nationalgeographic.com/explore/wacky-weekend/rain-forest-animals/#sloth-beach-upside-down.jpg

https://kids.nationalgeographic.com/animals/sun-bear/#sun-bear-tongue.jpg

END-OF-UNIT TASK RUBRIC

Third Grade Student Culminating Task Rubric

Note: The end-of-unit task rubric is designed to support educators in determining the extent to which students' responses meet the grade-level expectations. This rubric will also help teachers analyze the extent to which each student understands the unit concepts and understandings.

Directions: After reading and reflecting on the student work sample, score each area and total the rubric score at the bottom. Note that this rubric is designed to look at student work samples in a holistic manner.

	Below Expectation (0)	Needs More Time (1)	Meets Expectation (2)	Above Expectation (3)
Content (Text-based evidence)	The response: • does not address the prompt. • lacks supporting details or evidence from text. • does not discuss animal adaptation and survival in 1 or 2 regions.	The response: • partially addresses the prompt. • includes some supporting details or evidence from text. • effectively discusses animal adaptation and survival in 1 region.	The response: • generally addresses the prompt. • includes adequate supporting details or evidence from text. • adequately discusses animal adaptation and survival in 2 regions.	The response: • fully addresses the prompt. • includes relevant and sufficient supporting details or evidence from text. • effectively discusses animal adaptation and survival in 2 regions.
Word Choice (Content Vocabulary)	The response does not include content vocabulary. *(Ex. adapt, survival, predator, prey,*	The response includes little use of content vocabulary. *(Ex. adapt, survival, predator, prey,*	The response includes adequate use of content vocabulary. *(Ex. adapt, survival, predator, prey,*	The response includes effective and appropriate use of content vocabulary. *(Ex. adapt, survival, predator, prey,)*
Mechanics	The response • illustrates little, if any, use of appropriate language. • utilizes few, if any, linking words and phrases • demonstrates little, if any, use of grade-level conventions of standard written English. • contains numerous errors in grammar, spelling, capitalization, and/or punctuation that impede understanding.	The response • illustrates inconsistent command of the language • utilizes basic linking words and phrases • demonstrates inconsistent command of grade-level conventions of standard written English. • contains some errors in grammar, spelling, capitalization, and/or punctuation, and they may impede understanding.	The response • illustrates adequate command of the language • utilizes an appropriate linking words and phrases • generally demonstrates adequate command of grade-level conventions of standard written English. • contains errors in grammar, spelling, capitalization, and/or punctuation, but they do not interfere with understanding.	The response • illustrates consistent command of the language • utilizes a variety of appropriate linking words and phrases • demonstrates consistent command of grade-level conventions of standard written English. • contains few, if any, errors in grammar, spelling, capitalization, and/or punctuation.
Structure	The response: • does not include an introduction. • does not use paragraph structure to group discussions of regions. • does not include a conclusion.	The response: • includes a weak or limited introduction. • uses little paragraph structure to group discussions of regions. • includes a weak or limited conclusion.	The response: • includes an adequate introduction. • uses adequate paragraph structure to group discussions of regions. • includes an adequate conclusion.	The response: • includes an effective introduction. • uses effective paragraph structure to group discussions of regions • includes an effective conclusion.

Total: _____

Above Expectation: 11 -12 points	**Meets Expectation: 8-10 points**
Needs More Time: 4-7 points	**Below Expectation: 0-3 points**

***Points are not designed to be averaged for a grade. This rubric is designed to look at student work samples in a holistic manner.**

APPENDIX A: UNIT PREPARATION PROTOCOL

Question 1: What will students learn during my unit?

Review the content goals for the unit, and identify the desired results for learners.	
• What are the concepts around which I will organize my unit (*universal concept, unit concept*)? • What will students come to understand through deep exploration of these concepts (*essential questions, enduring understandings*)?* • What disciplinary knowledge will focus instruction and provide the schema for students to organize and anchor new words (*guiding questions, disciplinary understandings*)? • Why is this content important for students to know? *Adapted from McTighe, J. & Seif, E. (2011), Wiggins, G. & McTighe (2013).	

Question 2: How will students demonstrate their learning at the end of my unit?

Review the end-of-unit task and the exemplar response to determine how students will demonstrate their learning.	
• How does the task integrate the grade-level standards for reading, writing, speaking and listening, and/or foundational literacy in service of deep understanding of the unit texts and concepts? • How does the task call for students to synthesize their learning across texts to demonstrate their understanding of the unit concept? • How does the task call for students to use appropriate details and elaborate on their thinking sufficiently? • How does the task prompt student thinking and writing that reflects the grade-level expectations? • What is the criteria for success on this task? What does an excellent response look/sound like?	

Question 3: How will students build knowledge and vocabulary over the course of the unit?

Read each of the texts for the unit, and consider how the texts are thoughtfully sequenced to build world and word knowledge.	
• How are the texts sequenced to build knowledge around the unit concepts? • How are the texts sequenced to support students in developing academic and domain-specific vocabulary? • Which instructional strategies are suggested for each text? How will I sequence them within the literacy block?	

Question 4: What makes the text complex?

You are now ready to prepare at the lesson level. To do this, revisit the individual text. Review the text complexity analysis and read the desired understandings for the reading.	
• What aspects of this text (structure, features, meaning/purpose, knowledge) are the most complex? • What aspects of the text are most critical for students to comprehend to ensure they arrive at the desired understanding(s) for the reading? • Where might you need to spend time and focus students' attention to ensure they comprehend the text?	

Question 5: How will I help students access complex texts during daily instruction?

Review the question sequence, and reflect on how the questions support students in accessing the text.	
• How does the question sequence support students in accessing the text and developing the desired understanding(s) of the reading? • How does the question sequence attend to words, phrases, and sentences that will support students in building vocabulary and knowledge? • How are the questions skillfully sequenced to guide students to the desired understanding(s) of the reading? • How will you ensure all students engage with the questions that are most essential to the objectives of the lesson? (Consider structures such as turn and talk, stop and jot, etc.) • How will you consider additional texts, or additional reads of the text, to ensure students fully access and deeply understand the text? • Are there any additional supports (e.g., modeling, re-reading parts of the text) that students will need to develop an understanding of the big ideas of the text and the enduring understandings of the unit?	

Question 6: How will students demonstrate their learning during the lesson?

Review the daily task for the lesson to determine what students will be able to do at the end of the lesson.	
• How does the task require students to demonstrate their new or refined understanding? • How does the task call for students to use appropriate details and elaborate on their thinking sufficiently? • How does the task prompt student thinking and writing that reflects the grade-level expectations? • How does this task build on prior learning in the unit/prepare students for success on the end-of-unit task? • How will students demonstrate their learning during other parts of the lesson? • What is the criteria for success on this task? What does an excellent response look/sound like?	

Question 7: What do my students already know, and what are they already able to do?

Consider what your students already know and what they are already able to do to support productive engagement with the resources in the unit starter.	
• What knowledge do my students need to have prior to this unit? • What do my students already know? What are they already able to do? • Given this, which/what components of these texts might be challenging? Which/what components of these tasks might be challenging? • What supports will I plan for my students (e.g., shifting to a different level of cognitive demand, adding or adjusting talking structures, adding or adjusting accountable talk stems into student discussions, providing specific academic feedback, or adding or adjusting scaffolded support)? • How can the questions and tasks provided in the unit starter inform adjustments to upcoming lessons?	

Question 8: What content do I need to brush up on before teaching this unit?

Determine what knowledge you as the teacher need to build before having students engaged with these resources.	
• What knowledge and understandings about the content do I need to build? • What action steps can I take to develop my knowledge? • What resources and support will I seek out?	

APPENDIX B: LESSON PREPARATION PROTOCOL

Question 1: What will students learn during this lesson?

Review the desired understanding(s) for the reading. Then read the daily task and the desired student response.	
• What is the desired understanding(s) for this reading? • How does this desired understanding build off what students have already learned? What new understandings will students develop during this reading? • How will my students demonstrate their learning at the end of the lesson? • How does the desired understanding for this reading fit within the larger context of the unit?	

Question 2: How might features of the text help or hold students back from building the disciplinary and/or enduring understandings?

Read and annotate the lesson text and review the associated text complexity analysis.	
• Where in the text will students be asked to make connections to what they already know? Where in the text will students build new knowledge? • What aspects of the text (structure, features, meaning/purpose, knowledge) might help or hold students back from building the disciplinary and/or enduring understandings? • Where do I need to focus students' time and attention during the read aloud/shared reading?	

Question 3: How will I support students in accessing this text so they can build the disciplinary and/or enduring understandings?

Read through the question sequence and the desired student responses.	
• Which question(s) are crucial and most aligned to the desired understandings? What thinking will students need to do to answer the most important questions? • Which questions target the aspects of the text that may hold students back from building the desired disciplinary and/or enduring understandings? • Are there adjustments I need to make to the questions or their order to meet the needs of my students - while assuring students are still responsible for thinking deeply about the content? • What do I expect to hear in students' responses? How will I support to students who provide partial or incomplete responses in developing a fuller response?	

APPENDIX C: USEFUL PROCEDURAL EXAMPLES FOR EXPLICIT VOCABULARY INSTRUCTION

Example 1:

- Contextualize the word for its role in the text.
- Provide a student friendly definition, description, explanation, or example of the new term along with a nonlinguistic representation and a gesture.
- Provide additional examples, and ask students to provide their own examples of the word.
- Construct a picture, symbol, or graphic to represent the word.
- Engage students in lively ways to utilize the new word immediately.
- Provide multiple exposures to the word over time.

-Beck et al., 2002; Marzano, 2004

For a specific example, see the shared reading webinar presentation found here.

Example 2:

- Say the word; teach pronunciation.
- Class repeats the word.
- Display the word with a visual, read the word, and say the definition using a complete sentence.
- Have the class say the word and repeat the definition.
- Use the word in a sentence: the context of the sentence should be something students know and can connect with.
- Add a gesture to the definition, and repeat the definition with the gesture.
- Students repeat the definition with the gesture.
- Have student partners take turns teaching the word to each other and using the word in a sentence they create.
- Explain how the word will be used in the text, either by reading the sentence in which it appears or explaining the context in which it appears.

- Adapted from *50 Nifty Speaking and Listening Activities* by Judi Dodson